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MICHIGAN HISTORY MAGAZINE

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George N. Fuller, *Editor*



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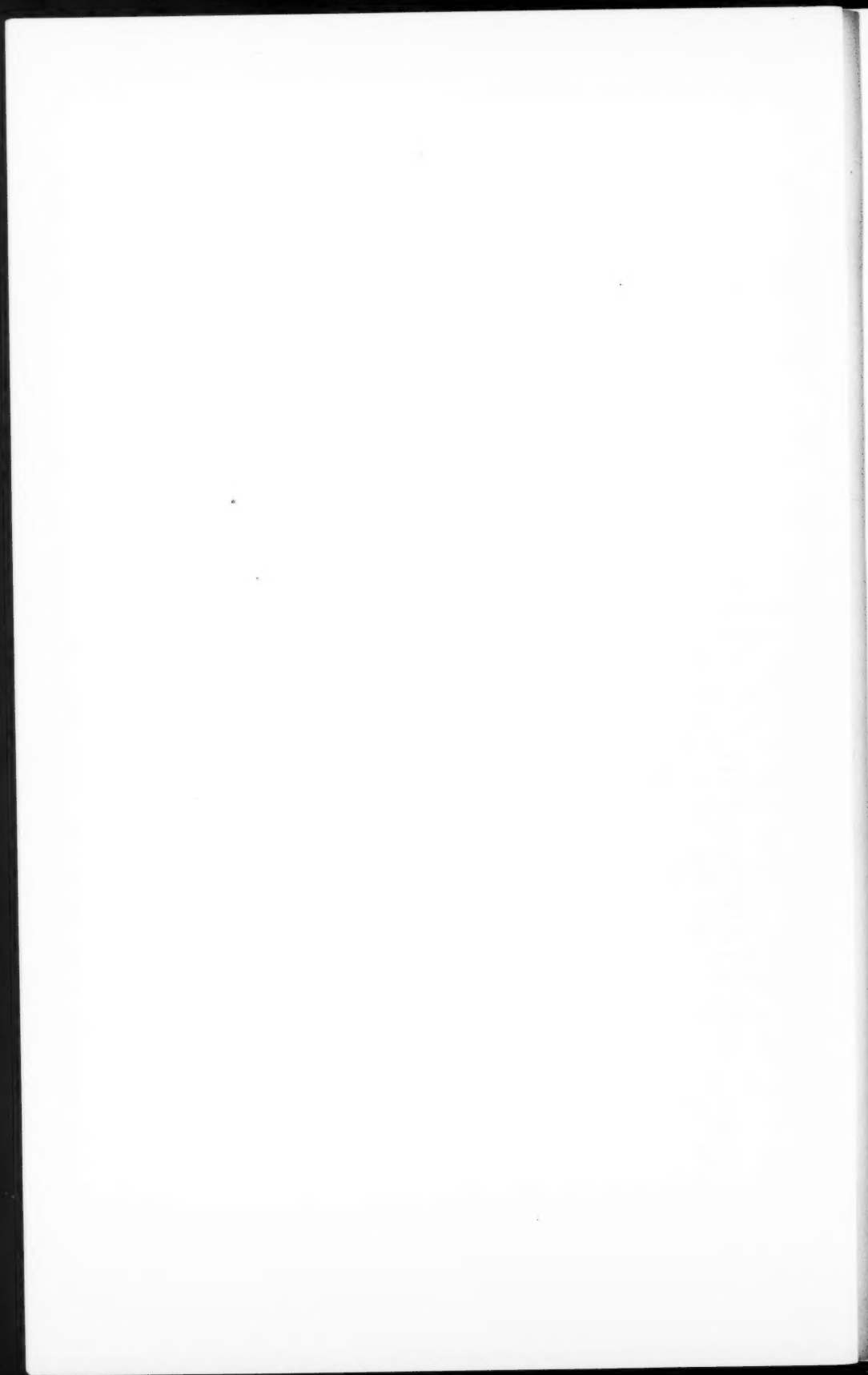
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MICHIGAN HISTORY MAGAZINE

Vol. XXII

WINTER NUMBER

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AMERICAN RED CROSS IN MICHIGAN

By DOUGLAS GRIESEMER

(Director, Public Information and Roll Call
The American Red Cross)

WASHINGTON, D. C.

THE HISTORY of the American Red Cross in Michigan constitutes a fairly representative cross-section of the history of the Red Cross in the nation.¹ Although this state has been singularly fortunate in the matter of major disasters, it has seen its share of needy families provided with relief by the Red Cross, thousands of its sick cared for by Red Cross public health nurses, other thousands of its children inspected for physical defects by Red Cross nurses in the schools, classes taught the elements of home hygiene by qualified nurse-teachers of the Red Cross, war veterans and active service men given assistance by the chapters, the members of the Junior Red Cross in the schools organized for service to less fortunate children and to the community, and volunteer workers freely devoting themselves to administration, production, braille, canteen, motor corps, health, home service, hospital service, disaster relief and other activities.

Through fifty-three years, since its inception in 1881, the work of the American Red Cross has been well known in Michigan. Within a few months after the organization was formed in this country, with a headquarters office in Washington and a single tiny chapter in Dansville, New York, the home

¹This article is based on Red Cross records in the files at National headquarters and at the mid-western branch office at St. Louis.

town of its president, Clara Barton, it gave work to its infant disaster relief machinery by extending assistance to victims of a devastating forest fire in Huron and Sanilac counties. This operation marked the first disaster in which the national organization rendered aid—the first of more than 1,700 catastrophes in which the American Red Cross has answered the call of distress in all parts of the United States and its insular possessions.

This baptism, literally of fire, was reported graphically by the Dansville Chapter to the parent society as follows:

“Before a month had passed, before a thought of practical application to business had arisen, we were forcibly and sadly taught again the old lesson that we need but to build the altar, God will Himself provide the sacrifice. If we did not hear the crackling of the flames, our skies grew murky and dark and our atmosphere bitter with the drifting smoke that rolled over from the blazing fields of our neighbors in Michigan, whose living thousands fled in terror, whose dying hundreds writhed in the embers, and whose dead blackened in the ashes of their hard-earned homes. Instantly we felt the help and strength of our organization, young and untried as it was. We were grateful that in this first ordeal your sympathetic president was with us. We were deeply grateful for your prompt call to action, given through her, which rallied us to our work. Our relief rooms were instantly secured and our white banner, with its bright scarlet cross, which has never been furled since that hour, was thrown to the breeze, telling to every looker-on what we were there to do, and pointing to every generous heart an outlet for its sympathy. We had not mistaken the spirit of our people; our scarce-opened doorway was filled with men, women and children bearing their gifts of pity and love. Tables and shelves were piled, our working committee of ladies took every article under inspection, their faithful hands made all garments whole and strong; lastly each article received the stamp of the society and of the Red Cross, and all were carefully and quickly consigned to the firm packing cases awaiting

them. Eight large boxes were shipped at first, others followed directly and so continued until notified by the Relief Committee of Michigan that no more were needed. Meanwhile the hands of our treasurer were not left empty, some hundreds of dollars were deposited with him. A most competent agent, our esteemed townsman and county clerk of Livingston County, Major Mark J. Bunnell, was dispatched with the first invoice of funds and charged with the duty of the reception of the supplies, their proper distribution and of making direct report of the condition and needs of the sufferers.

"The good practical judgment of the people and the Society led them to consider the near approach of winter and the unsheltered condition of the victims, bereft of every earthly possession, and warm clothing and bedding were sent in great abundance. Our cases were all marked with the Red Cross and consigned to Senator Omar D. Conger, of Port Huron, who led the call of the Michigan committee and to whom, as well as to his kindhearted and practical wife, we are indebted for many timely suggestions and words of grateful appreciation.

"In a spirit of gratitude and hope we submit this partial report of our first work under the Red Cross, which can be but partial, as our rooms are still open and our work is in progress awaiting such further calls as may come to us. We are grateful that we are called, grateful that your honored President, with the acquired skill of the humane labors of many years in many lands, was with us to counsel and instruct. We are glad to have learned from this early object lesson the value of organized effort and the value of our own organization.

"We hope our report may be satisfactory to you, and that our beautiful little valley town, quietly nestling among the green slopes of the Genesee Valley, after having offered the first fruits of the Red Cross to its own countrymen, may always be as prompt and generous in any call of yours for suffering humanity."

Following the forest fires of 1881 no serious calamities visited Michigan until 1908, when the national organization

again extended help to forest fires sufferers and later in the same year to victims of a cyclone. Like other states, however, Michigan has responded generously to Red Cross appeals for funds to alleviate distress resulting from disasters both within the state and elsewhere.

Like the initial chapter in Dansville, the Michigan Branch of the Red Cross had been organized but a matter of months when it rallied to the help of victims of one of the great disasters of all time, the San Francisco earthquake, April 18, 1906.

The first record of actual formation of the Red Cross in Michigan is contained in the minutes of a meeting called at Detroit, June 15, 1905, for organization of the Michigan Branch. The meeting was attended by nine citizens of Detroit and one delegate from Kalamazoo. The organization created four officers and an executive committee of five, all of whom were citizens of Detroit. A number of vice-presidents were appointed to represent the state at large.

The first recorded activity of the new Branch was the collection and transmittal of \$65,107.87 as a contribution to the fund for relief following the earthquake that razed the Golden Gate City. In the years that followed the Michigan Branch was active in the collection of funds for a number of domestic and foreign disasters, including fires in northern Michigan in 1908 and the earthquake in Messina the same year.

Michigan disasters which have required assistance from the national organization follow:

Year	Disaster
1881	Forest fires in Huron and Sanilac Counties
1908	Forest fires
1908	Cyclone relief at Clinton
1911	Forest fires
1917	Southern Michigan tornadoes
1920	Cyclone in Lenawee county
1925	Fire in Chatham
1926	Typhoid fever epidemic, Rogers City
1927	Typhoid fever epidemic, Ironwood
1927	School building explosion, Bath

- 1929 Fire, Mount Pleasant
- 1929 Shipwreck of the "Milwaukee" on Lake Michigan; nine families in Grand Haven affected
- 1933 Forest fire, Upper Peninsula
- 1934 Hotel fire, Lansing
- No disasters in 1935, '36 or '37

At the annual meeting of the Michigan Branch on November 9, 1909, the Detroit Chapter of the Red Cross was created by election of the officers of the Michigan Branch to corresponding offices of the Detroit Chapter. The organization thus created included four officers and a board of directors of seven.

The beginning of the World War in the summer of 1914 directed the attention of the Chapter officials to the responsibilities placed upon the Red Cross by the Treaty of Geneva. During the period from November, 1914, until the entrance of the United States into the World War in April, 1917, the Detroit Chapter provided a channel through which large quantities of hospital and surgical supplies, prepared by volunteers in Detroit, were made available for the service of the sick and wounded in Europe.

As was the case throughout the country, Michigan's interest in the Red Cross reached a high pitch during the early days of the World War. In 1916 there were only five chapters in the state. Within a year this number had jumped to 84. The same number was active at the opening of 1934.

One of the nation's most amazing epochs in humanitarian effort was the part of Michigan in Red Cross war work. While it is impossible to arrive at an accurate total of time spent, value of voluntary service rendered, and the amount of rentals for office space and warehousing which were waived, a conservative estimate places the number at more than 200,000 men and women of the state who gave a goodly part of their time to the Red Cross, and the rental value of donated space at tens of thousands of dollars. This includes as workers those in administration, inspection, canteens, home service, motor corps, nursing and work-rooms; and as space, state, chapter and branch offices, shipping, inspection and work-rooms.

In 1916 there were 709 members of the Red Cross in all of Michigan. By March 1, 1917, the Michigan membership had reached 1,425. In the fall of 1917, the total had climbed to 35,000. Early in 1917, when our country went to war, it was plain that Red Cross aid would be needed at once, and applications for Chapter charters from patriotic people in various parts of Michigan began to pour in at the national headquarters in Washington, sometimes several coming from one county. Frederic W. Stevens of Ann Arbor, was appointed the state's first director of Red Cross work, only to be forced by ill health to resign in November the same year. He was succeeded by Sidney T. Miller. Mark T. McKee was appointed director of the bureau of development, resigned on entering military service in October, 1918; William A. Comstock was appointed to succeed him in December, 1918. Later the office of state director as well as the state branch set-up, was abolished.

Others engaged in war-time assignments included Mrs. R. H. Ashbaugh, director of women's work; Tracy McGregor, director of civilian relief; Daniel L. Quirk, director of military relief; Mrs. L. E. Gretter, director of nursing; Paul King, director of publicity; Emory L. Ford, director of shipping; Henry K. Jones, headquarters secretary, and Miss Jessie R. Henkel, secretary of military relief work.

By arrangement with the central division office, all work produced in the Lower Peninsula was inspected and shipped in Detroit, and all from the Upper Peninsula was sent through Chicago. This was done to save freight charges and time. Extensive inspection and shipping rooms were procured without cost, and a volunteer force put at work without delay. Several business men, including Cullen Brown, Harry Hopper, William Penfield, and Clement Kross, gave their entire time to the work, supervising the packing and shipping; also, at odd times other business men dropped in to help inspect, and often policemen, off duty, lent a welcome hand in packing and shipping. The brunt of the inspection was borne by an efficient corps of women. Nothing that was found below requirements

was passed; it was either corrected or returned to the producing chapter.

By the spring of 1918 membership in the state was 462,718. On January 1, 1919, the rolls showed 1,037,892 Michigan members. This striking increase reflects the high pitch of interest and the general satisfaction with Red Cross results.

As the war progressed, various changes and additions were found necessary in the personnel. Mr. Quirk went overseas for the Red Cross and was succeeded by William P. Hamilton and William P. Harris, who divided the military relief work. Mr. King resigned and was succeeded as director of publicity by J. Lee Barrett. W. B. Palmer came in as another headquarters' secretary, having special charge of accounting. Enlisting overseas workers made it necessary to establish a personnel bureau. For the men, this department was in charge of Mr. Harris and for the women was under Mrs. Ernest C. Wetmore, who had as her assistants Mrs. R. McD. Campau and Mrs. H. D. Gillespie. The last campaign for funds during the winter of 1918 was conducted in Michigan by Otto Sovereign, of Bay City, in the Lower Peninsula, and Peter W. Philips, of Marquette, in the Upper Peninsula. The civilian relief or home service work was taken over by division headquarters acting under instructions from Washington, but Mr. McGregor continued to be used as counsel.

All of the headquarters' force were full-time volunteers, with the exception of the clerical workers.

To spread information with reference to the various activities of the Red Cross and to spur campaigns when they were in progress, a number of conferences were held, which called together the administrative officers of chapters in the different sections. These conferences were as follows: at Marquette, December 6-10, 1917, and May 3, 1918; at Lansing, February 21, 1918; at Saginaw, May 1, 1918; at Grand Rapids, April 30 and August 8-9, 1918; at Escanaba, June 12-13, 1918; at Bay City, July 31-August 1, 1918; at Traverse City, August 6-7, 1918; at Ann Arbor, September 4-5, 1919.

In addition to the regular state office organization, the active work of Frederick G. Austin, of Detroit, as representative of headquarters in rounding up war fund subscriptions and the helpfulness of J. B. Schlotman and Gustavus D. Pope, of the state executive committee of the American Red Cross, aided immeasurably.

It is estimated that Michigan sent out of the state in money, supplies, etc., more than \$10,000,000 for the Red Cross between September 1, 1917, and March 1, 1919.

In the National organization's first War Fund campaign, June 18 to 25, 1917, residents of Michigan responded with \$2,949,696.26 in subscriptions. The appeal was directed by Mr. Stevens.

Eleven months later, May 20 to 21, 1918, the Second War Fund of the Red Cross in Michigan won for the state national recognition. From the outset there was no doubt that every state would respond liberally and promptly to the call of the Red Cross, but the agency's most optimistic officials were unprepared for the following telegraphic report of the Second War fund in Michigan after only 10 hours of campaigning:

"Michigan has passed the \$3,000,000 mark and completed her quota. Are we first under the wire? Answer quick.

Mark T. McKee,
Campaign Director."

Michigan was first. Division headquarters could not give positive assurance until it had confirmation from Washington, but presently this reply came over the wires:

"Michigan was the first state to secure its quota. Congratulations to the Central Division and to Michigan. Campaign is going splendidly.

George S. Fowler,
Executive Secretary."

The final figures for the Second War Fund showed that Michigan raised a total of \$4,363,039.26. The assigned quota was \$2,617,000.

Michigan led other Central Division states in the organization's plan of extending Red Cross Chapters' jurisdiction to county boundaries. This rule was followed in organizing the state's 84 local units.

From the beginning, the response of Michigan's citizenry to Red Cross appeals has been outstanding. This is reflected in the following table, showing national receipts and expenditures in the state from July 1, 1926, to June 30, 1937:

	Receipts	Expenditures
1926-1933	\$1,783,415.53	\$51,736.26
1934	78,576.40	7,986.18
1935	76,556.59	5,096.09
1936	341,879.21	31,071.67
1937	1,314,900.18	38,156.34
Total	\$3,595,327.91	\$134,046.54

Michigan's generosity has been consistent through the years. Whenever the Red Cross has appealed for funds to aid the victims of disaster, the state's citizens have made prompt and worthy answer. Included among the larger disasters to which Michigan people have contributed, together with the amounts forthcoming from the state, are the following:

1923	Japanese earthquake	\$255,790.63
1926	Florida hurricane	123,977.02
1927	Mississippi flood	517,442.60
1928	Florida hurricane	209,990.29
1931	Drought	233,949.33
1933	Southern California earthquake	339.16
1936	Spring floods and storms	266,943.24
1937	Ohio-Mississippi River floods	1,228,029.68

The development of Red Cross activities progressed rapidly during and immediately following the World War. However, Red Cross Nursing Service has a record in Michigan that antedates this country's entrance in the War. One or two counties affiliated with the Red Cross under the old system of Town and County Nursing Service as far back as 1915. The year 1919 marked the beginning of active Red Cross participation in nursing services, and since that time, 50 counties in

the state have had some type of Red Cross Nursing Service covering a period which varies from one to ten years.

The following figures show the status of Nursing Service in Michigan at the end of the fiscal year, June 30, 1937:

Number of Chapters having Service	5
Four of these are carried on jointly with other groups	
Number of nurses on duty	8
Nurses on duty (Monthly average)	9
Total cases under care	2,338
Nurses' visits to or in behalf of patients	11,141
School and pre-school children:	
Inspected by doctor or nurse	5,096
Treated for one or more defects	2,207

Fifty-two nurses under direction of 25 Michigan chapters conducted classes in home hygiene and care of the sick in 1937, issued certificates to 2,925 persons successfully completing the course.

Red Cross first aid was taught in 1937 by 288 instructors under the sponsorship of 38 Michigan chapters; certificates were issued to 7,606 persons completing the standard and advanced courses.

Between 1914 and 1937, 31,869 persons were certified in life saving. Of this number, 2,954 completed life saving courses of the Red Cross in 1937. Forty chapters reported life saving programs in this year, with 273 instructors conducting classes.

Since the inauguration of home service by the Red Cross, chapters in Michigan have been conscious of their responsibility for assisting families of soldiers and sailors and helping the discharged men adjust themselves to normal civilian life. At a Red Cross meeting in Pontiac, Michigan, in January, 1919, one speaker made the significant remark, "I see that home service has a man-sized job this year. This county is for the Red Cross program to the end; until every last man is back and established in life we are with him and his family."

That home service is still an important activity in Michigan is revealed by the fact that 14,751 ex-service and service cases were handled during the fiscal year ending June 30, 1937.

Civilian home service also became a definite activity among many chapters at the close of the World War. By the end of 1920 there were 14 Michigan chapters authorized to extend civilian home service. This number has grown to 66 chapters by the close of the last fiscal year.

In 1937 volunteer activities were reported by 63 Michigan chapters, as follows: 95,671 garments produced, including layettes; 30,982 surgical dressings produced; 745 Christmas bags produced; 27,996 pages of braille completed; 8,755 pints of vegetables and fruit canned; 8,755 volunteers engaged in active duty.

In the extensive distribution of government commodity surpluses by the Red Cross in 1932-33—as important a single undertaking as any since the World War—chapters in Michigan participated on a large scale. Once more the volunteer seamstresses gathered in chapter houses to produce garments for a worthy cause. Through the chapters, the Red Cross distributed 5,246,624 yards of cloth; 49,188 yards of sheeting; 150,576 comforts; 2,692,320 garments; 282,012 sweaters. Of finished goods, made from government cotton, Michigan factories produced for the Red Cross 553,092 outer garments and 619,200 under garments. It is estimated that chapter volunteers, using the cloth sent them by National Red Cross headquarters, produced 1,943,194 garments. Processed and distributed were 527,753 barrels of flour and 92,150 pounds of cereal.

Michigan was among the first states in the Central Division to develop Junior Red Cross. January, 1918, marked the organization in the Central Division of a Bureau of Junior Membership. Working in cooperation with the officers at division headquarters there were in each state, advisory committees composed of leading educational authorities and school officials. Three states, one of which was Michigan, had direc-

tors of Junior activities, who were responsible to division headquarters for organization and work in their respective states. As in the case of state directorships and state branches, this state Junior Red Cross office later was terminated. The record of Junior memberships in Michigan is as follows:

1921	243,697
1922	76,417
1923	80,730
1924	111,903
1925	115,595
1926	89,886
1927	81,084
1928	91,635
1929	136,213
1930	113,115
1931	112,246
1932	101,405
1933	104,421
1934	114,753
1935	140,897
1936	171,512
1937	180,058

The Central Division, formed for the administration of chapter affairs within a certain area, was organized in 1914, with headquarters in Chicago. Michigan was one of the states comprising the Central Division at the time of its formation, and remained until April 1, 1921, when the state was taken over by the Lake Division, with headquarters at Cleveland, Ohio. On May 15, 1922, however, the Lake Division office at Cleveland was closed and Michigan transferred back to the Central Division. In 1925 Division offices disbanded and three Branches were established for the entire country, Michigan coming under the territory of the Midwestern Area Branch office, with headquarters in St. Louis, Missouri. This area embraces 17 states.

At present three field representatives serve Michigan chapters. Richard P. Swiggart covers one-half of the state on general chapter matters with the other half taken on temporary assignment. Miss Rebecca Pond helps the chapters on nursing problems and S. Arthur Shaw is the national organization's liaison representative and is stationed at offices of the Veterans Administration.

The governing body of the National Red Cross, known as the Central Committee, at present includes a prominent Michigan citizen, Gustavus D. Pope of Detroit, among its members. Mr. Pope was mentioned previously in this article for his outstanding participation in Red Cross work.

Other members of the Central Committee and National officers of the Red Cross at the opening of 1937, follow:

President	Franklin D. Roosevelt
Vice President	Charles Evans Hughes
Vice President	Herbert Hoover
Treasurer	Wayne C. Taylor
Counselor	Stanley Reed
Secretary	Miss Mabel T. Boardman

CENTRAL COMMITTEE

Appointed by the President of the United States:

Cary T. Grayson, chairman.

R. Walton Moore, Counselor, to represent the Department of State.

Major General Charles R. Reynolds, Surgeon General, U.S.A., to represent the War Department.

Rear Admiral Perceval S. Rossiter, Surgeon General, U.S.N., to represent the Navy Department.

Wayne C. Taylor, Assistant Secretary, to represent the Treasury Department.

Stanley Reed, Solicitor General, to represent the Department of Justice.

Elected by the Board of Incorporators:

Cornelius N. Bliss	New York, N. Y.
Elliot Wadsworth	Boston, Mass.
Mabel T. Boardman	Washington, D. C.
Mrs. Henry R. Rea	Pittsburgh, Pa.
George E. Scott	Chicago, Ill.
Alfred E. Smith	New York, N. Y.

Elected by the Chapter Delegates:

William Fortune	Indianapolis, Ind.
Samuel Knight	San Francisco, Calif.
Mrs. August Belmont	New York, N. Y.
Gustavus D. Pope	Detroit, Mich.
Mrs. Henry P. Davison	Locust Valley, N. Y.
Henry Upson Sims	Birmingham, Ala.

HISTORY OF THE SAFETY MOVEMENT IN MICHIGAN

BY H. O. ROUNDS

(Director of Safety & Traffic Division, Automobile Club of Michigan;
Supervisor of Bureau of Public Safety, City of Detroit, 1919-1927)

THE AUTOMOBILE CLUBS and police departments have been inseparably linked and working harmoniously together in creating and carrying on the public safety movement in Michigan. As the automobile brought the hazard into the street, it was most natural that the organization of automobile operators should cooperate to lessen the evils which accompanied it and I am giving here the chronological order of the development of the Public Safety Movement.

1902

The Automobile Club of Detroit was organized June 23. Among its organizers are found the names of Fred M. Alger, Russell A. Alger, Dexter M. Ferry, Henry B. Joy, William E. Metzger, B. C. Whitney, and Burt R. Shurly. Its headquarters were at Pine Lake, and it is now known as the Pine Lake Country Club.

1910

The Wolverine Automobile Club was organized, and prominent among its organizers were Messrs. McGookin, Brauns, Porter, Robinson, Dunk, Berger, White, and Rockwell. The headquarters were on the second floor of the Griswold House, Detroit, where the club remained until 1912.

As 49 were killed in traffic accidents in that year, the I Will Club was organized, consisting of the Wolverine Automobile Club and other interested citizens, to take action of some kind. As a result the first Traffic Ordinance was written by George A. Walters, Secretary, and Second Deputy Commissioner of the Police Department of Detroit, assisted by the above organizations, and was adopted by the Council.

1914

The first traffic signal ever used was designed by Mr. Walters and made in the Sign Shop of the Detroit Police De-

partment. It consisted of a bicycle wheel filled with cement and laid flat, with an iron pipe as the upright, on top of which was a bicycle lamp. This was used at Woodward and Grand Boulevard and the same year Officers William P. Rutledge and Thomas O'Grady were detailed to make Safety Talks in the schools.

1915

Captain Rutledge, Director of the Police Training School, was put in charge of the First Traffic Squad in Detroit.

As accidents were increasing the people were becoming interested and the Twentieth Century Club, Miss Hattie Carstens, President, organized a Safety Committee to assist. As a result of the increased activity, the first National Conference was called at Detroit, October 19 and 20, known as the Safety First Federation of America, which met at the Hotel Pontchartrain. John Gillespie was elected Chairman with Frederick H. Elliot, Secretary, with the following prominent men as the Committee in Charge: Jefferson DeMont Thompson, Charles H. Gifford, William J. Chittenden, Alonzo P. Ewing, W. E. Cann, Edward H. Doyle, Charles B. Warren, Dr. Charles E. Chadsey, William C. Bryant, Francis K. Butler, George A. Walters, and E. D. Broner. On the Entertainment Committee appeared the names of Hugh Chalmers, Horace E. Dodge, William E. Metzger, and August A. Schantz. Among the Speakers were Henry B. Joy, Hon. William McAdoo, Hon. Ralph Folks, and Hon. Charles E. Healy.

1916

The result of this meeting was a Committee of one hundred which was formed early in 1916 with Eugene C. Foster, Chairman—Myron S. Aldrich, Secretary—Edward H. Doyle, Treasurer—who, with Mrs. C. B. Wilson and A. A. Dunk, were known as the Commissioners; their objective being to make safety moving pictures for use in the schools in connection with visual education. But, evidently, the time was not ripe for this work and the Committee functioned only for a short time.

In July the Detroit Automobile Club was organized through the activity of Martin L. Pulcher, President of the Federal Motor Truck Company, the first officers being: William E. Metzger, President—Martin L. Pulcher, Vice-President—Edward N. Hines, 2nd Vice-President—Sidney D. Waldon, 3rd Vice-President—W. B. Bachman, Secretary—J. Lee Barrett, Treasurer—and Captain W. S. Gilbreath, Manager.

One of the first activities of this Club was to appoint a Safety and Traffic Committee of which Charles T. Bush was Chairman. Intensive safety activity was started in connection with the Board of Commerce, the Police Department, and interested citizens, but, as the war was demanding the attention of the citizens at that time, the safety activities lagged somewhat.

There were registered in Michigan 160,052 automobiles which were trying to go somewhere, but it was on the hit-and-miss plan as there were no hard surfaced roads going anywhere and no signs indicating where any roads went. One of the first activities of the Automobile Club was to paint colored bands on the telegraph and telephone poles in certain combinations of colors, and to supply their membership with a book telling their meaning which was the sole source of information relative to direction available until the state took over the sign posting.

In the fall of that year it was decided that the organization of the larger boys in the school would be of wonderful assistance in protecting the younger children crossing the street and there were organized what were called School Safety Guides, but the boys did not take kindly to this name and did not function very efficiently. They finally ceased toward the end of the spring term.

1918

The new Charter of Detroit adopted in 1918 contained provisions for a Bureau of Public Safety, within the Police Department, which was placed under the supervision of George A. Walters, 2nd Deputy Commissioner, who assigned Officers Ralph Fraser and Claude Smith to carry on the work.

The Three-Way Traffic Light Signal was invented by Inspector William Potts, Superintendent of Signals, Detroit Police

Department, and the first signal tower using it was placed at Michigan and Monroe streets, December 31, 1918, by Supt. W. P. Rutledge.

1919

Early in 1919 the Safety Committee of the Detroit Automobile Club and the Detroit Police Department, Bureau of Public Safety, opened offices in the Pontchartrain Hotel and prepared for and carried out the first intensive safety campaign held in the Middle West, from May 20 to June 20. The active workers in the campaign were: George A. Walters, Captain W. S. Gilbreath, Charles T. Bush, with Frank E. Morris of the National Safety Council, together with officers Ralph Fraser, Claude Smith, Lester Potter, and Royal A. Baker, who were detailed by the Police Department for this work, and with Jim Devlin, editor of the *Motor News* in charge of publicity. Miss Doris Wilson and Mrs. Geneva Mettie were in charge of the office.

In October, H. O. Rounds, Band Master of the Police Band, a former school teacher, was detailed as Supervisor of the Bureau of Public Safety.

The need of protection to the children on their way to school was apparent and again boys were detailed to stand on the curb and direct the children. This time they were called Safety Patrol and were equipped with arm bands by the Automobile Club. These became popular and soon nearly every school in the city had its patrol.

Frank E. Cody, Superintendent of Schools, detailed Miss Harriet E. Beard to the position of Supervisor of Safety Education in the Public Schools.

The first safety moving picture was made by C. R. Freda, collaborating with Mr. Walters. It was made at the Ford Laboratory and was entitled "All For Safety".

Safety meetings, known as "Community Chautauquas" were started in school auditoriums by Mr. Rounds as a continuous safety educational activity five nights a week.

The second Safety Campaign was held November 9 to 16. The slogan was "Help Make Detroit Safe". Cards with cross

were placed where every fatal accident occurred. Lieutenant George Wilson and his talking dummy "Champ" was a feature.

The first Safety Lessons for teachers were prepared by Miss Harriet E. Beard and presented in March.

The third Safety Drive was held April 1 to 14. A feature was 70 safety talks made in factories by H. O. Rounds.

May 14 the first Drivers License Law was signed by the Governor.

The Grand Rapids Safety Council was organized with Ehler Mavis as President, and John Townsend as Manager to carry on safety work in the factory, the home, and the streets. Mr. Townsend was followed by R. C. Haven, and he, by E. Ross Fara as Manager. There was organized by the Safety Council, a Citizens Traffic Squad consisting of prominent business men who worked with the Police Department, its members taking their own cars and an officer and patrolling the streets after dark apprehending violators of the traffic ordinance.

September 24 Judge Vincent M. Brennan of Detroit presented the Second Traffic Ordinance, the result of much thought by a large committee. This was presented to the Council and was adopted and signed by Mayor James Couzens, October 20. Many thousands of digests were printed and liberally distributed. The Accident Investigation Bureau was established by Supt. Rutledge.

In October Harry H. Jackson, Director of Traffic, detailed Sergeant Jantz to the Parochial Schools and Officers Huhnke and Woodbury to the Public Schools to teach the principles of safety.

Year after year following this there were carried on almost continuously Safety Weeks, Safety Parades, in and out of Detroit. Millions of pieces of literature were distributed, the newspapers gave yeoman service in the publicity running items daily, circulars were printed in nine different languages and liberally distributed through the non-English reading districts, billboards were covered, broadcasting was carried on almost daily over K.O.P. and the other stations. Great mass meetings

were held every night in the week but Sunday and many churches gave up their time to carry the message to their congregations. Strict enforcement was demanded and the Police Department complied by a strenuous campaign of enforcement, the Judges cooperating. Judge Charles L. Bartlett, then Recorder, won national prominence at that time. A Violations Bureau was installed in the Police Department where drivers could part with their money in as painless a manner as possible, being separated from over half a million dollars each year. Speakers and a vaudeville act written by H. O. Rounds—"The Pity Of It"—was put into all the theatres by Officer Charles Wiggle, known as the Singing Cop, and safety pleas were delivered to the homes with the milk in the morning.

1922

The Board of Commerce organized the Detroit Safety Council with Captain Jack Robbins as Manager, followed by J. Harry Goldie the following year, this organization at once lending its aid to the safety activity.

1923

September 3 Superintendent Rutledge started the Drivers School which has proved such a success, with Officer J. Wesley Brown, who had taken the place of officers Huhnke and Woodbury in the schools, as teacher.

1925

Thomas P. Henry was elected President of the Detroit Automobile Club, and, at the suggestion of Captain Gilbreath, Manager, organized a Department of Safety and Traffic to carry on throughout the State the same kind of safety activity carried on in Detroit. L. J. Van Schoick was placed at its head with Miles C. Bristol as Assistant, and through arrangements with Captain Scavarda of the Michigan State Police, Lieutenant Howard G. Arntz and Corp. W. G. Needham were detailed to work with the Club. That Department gave fine cooperation, the troopers carrying the safety message and distributing safety literature to all towns in their territory and

organizing many groups in the schools as Junior State Police in both the Upper and Lower Peninsula.

Through the efforts of the Automobile Club a convention to consider uniform traffic regulations for the state was held at Detroit. Committees were appointed and adjourned to meet at Grand Rapids in October, at which time there was adopted a uniform traffic ordinance comparable to the suggestions adopted at the Hoover National Conference held at Washington, D. C. This was adopted October 22, and it was recommended that all municipalities as quickly as possible adopt the same insofar as it applied to the conditions in their community. It was so adopted at once in all but three cities in the State, and those cities adopted it within a year.

This convention was attended by over 300 prominent men and women,—mayors of cities, presidents of villages, chiefs of police, sheriffs, judges, prosecuting attorneys, automobile clubs, and chambers of commerce, among which may be mentioned only a few who have been prominent for years in safety work—Wm. E. Metzger, Chairman; Walter C. Boynton, Detroit, editor *Automobile Daily News*, Vice-Chairman; Howard Brown, Legal Department, Detroit Automobile Club; Alan G. Straight, State Commissioner of Public Safety; A. A. Carroll, Chief of Police, Grand Rapids; Jerome S. Borden, Sheriff Kalamazoo Co.; W. S. Gilbreath, Manager Detroit Automobile Club; J. H. Goldie, Executive Secretary, Detroit Safety Council of the Board of Commerce; Wm. H. Kurtz, Chief of Police of Saginaw; Judge Charles L. Bartlett, Recorder of City of Detroit; George A. Walters, Sheriff Wayne County; Thomas O'Grady, Director of Traffic, Detroit; etc.

The Accident Investigation Bureau was established in Grand Rapids with one Investigator and one Accident Recorder under the supervision of Captain Ray Sprague of the Traffic Division.

W. F. V. Neumann was elected as Chairman of the Safety and Traffic Committee of the Detroit Automobile Club on resignation of Charles T. Bush.

1926

The Detroit Industrial Safety Council was organized with Robert Wilson as President and Elmer Hewitt as Manager who was followed by Clarence T. Wilson and he, by Clarence E. Wormouth. This activity was limited to industrial safety and commercial vehicles and a great improvement was at once noted along those lines.

1927

At the resignation of Mr. Van Schoick, H. O. Rounds was engaged to carry on the work as Director of Safety and Traffic Division of the Automobile Club of Michigan, and W. Clyde Raines was placed in charge of the Bureau of Public Safety, Police Department. The same year the Citizens Traffic Squad was organized with George Opp, Chairman, and H. O. Rounds, Secretary, and has grown to a membership of almost 1000 business and professional men.

Brake tests were put on all over the state during the summer, year after year, police departments and automobile sales and service departments co-operating.

At Saginaw, officer Chester Parkins, and at Lansing, officer Harry Snider, and at Grand Rapids, officer Elmer Brackett were detailed by the chiefs of police to organize and supervise School Patrols and carry on other safety activity. The Sheriff of Muskegon County detailed Deputy W. J. Berichon to carry on in the rural schools and highways, he being the first to make moving pictures of rural safety activities.

In August of this year Col. W. S. Gilbreath was made Executive Vice-President of the Detroit Automobile Club and Richard Harfst took his place as Manager.

1928

As the result of the ever increasing agitation for reduction of accidents, the Federation of Women's Clubs, Mrs. Nelson J. Lewis, President, felt that there should be a place where women might become better acquainted with the automobile and its operation and Mrs. Flora B. Rounds, Chairman of the Safety

Division, was delegated to put on a school to accomplish this end. This she did in cooperation with the Detroit Women's Safety Committee, Mrs. Clara N. Downey, Chairman, the Detroit Police Department, and the Detroit Automobile Club. H. O. Rounds, Director of the Safety and Traffic Division of that club, was asked to take charge and teach the class.

The first class had a registration of 690 which was the capacity of the Federation Club Auditorium and the speakers were:

Richard Harfst, General Manager, the Detroit Auto Club
Judge W. McKay Skillman, Records Court

Inspector Gustave C. Schink, Director of Traffic, Police Department

Capt. W. S. Gilbreath, Exec. Vice-Pres., Detroit Auto Club

The success was so great that the organizations interested agreed to continue the class every year. This has been done during the months of April or May and has had the cooperation of many of the most prominent men and women in the city, who have addressed it at various times.

Much agitation had been carried on for a Traffic Court as the change of policy every month was felt to be detrimental to the safety of the city. It was decided that what was necessary was a court, independent of the Records Court, that could write its own method of procedure and cut some of the red tape so necessary in the handling of criminals, making it possible for the automobile operator, who is not a criminal, to get his case tried without delay. In the case of serious accidents or felonies he could be taken into court at once and have a hearing before a judge, and then be held for trial or immediately dismissed.

When the bill was passed, however, it was found that instead of a Traffic Court there were two more Judges on the Records Court Bench known as the Ordinance Division that must hear in addition to the traffic cases, all other ordinance cases as well. It did not take long to find out that conditions were no better than before. Because of there being too much work for

the judges, there was installed what is known as a "Referee" who handles all ordinary traffic violations.

1929

When the Ordinance Division of this court was organized, Governor Fred Green appointed J. J. Maher and S. D. Callender as judges.

The Flint Automobile Club organized a Safety Department to carry the A. A. A. Safety program through their territory with C. A. Addison from the State Police as its Director.

1932

There were 226 school intersections in Detroit covered by traffic officers but as a matter of economy 136 of these were taken off and nine officers under Sergeant J. Wesley Brown were detailed to organize and supervise Safety Patrols and carry on such safety activity as from time to time was found necessary. The names of these officers on the first detail were John Cross, Norbert Deary, Charles Flynn, Henry Hall, Robert Orr, Bernard Preo, George Scharf and Sanford Shoults.

1933

This year saw the passing of a man who had been in the front in all safety work from its inception until the time of his death, April 1, 1934, Wm. E. Metzger.

1934

In January, A. A. Schantz, who participated in the first Safety Convention in 1915 as the head of one of the committees of arrangements, passed away.

Many high schools in Detroit and through the State organized junior automobile clubs or traffic clubs to study traffic law and the mechanism of the automobile according to plans furnished by the Automobile Club and the National Safety Council. Gordon Graham, Safety Engineer of the Detroit Board of Education, was instrumental in starting them in Detroit.

From the time that the automobile was invented up to and including 1930, there has been a constant increase in fatal accidents, and also an increase in population and in the registration of the motor vehicle, the figures showing that while the

population increased 89.3% since 1910, and the registrations increased 87.2%, the fatal accidents increased 98.3% up to 1930, but these figures do not tell all the story. There was great improvement in the highways and roadways. The automobile was also greatly improved as to its safety features. The congestion, however, became greater and there was no perceptible improvement in the driver, judging from the constantly increasing fatalities, as will be seen by the following figures showing the number of fatal accidents.

Number of Fatal	Year	No. Per 100,000
		Population
49	1910	5.4
419	1920	11.5
1097	1925	26.3
1212	1926	30.0
1380	1927	31.5
1415	1928	32.8
1541	1929	33.4
1560	1930	32.6
1502	1931	30.8
1222	1932	22.5
921	1933	19.2

In 1928 the Safety and Traffic Division of the Automobile Club of Michigan presented to all the schools in the State a well worked out plan for teaching the children self-protection. It began in the kindergarten to create safety habits, and then as the pupils went from grade to grade it taught them how to contact the hazards of the streets safely. This program was accepted by the schools and as the years passed the activities grew like a snowball until in 1932, there were 80% of the teachers in the State cooperating to the end that accidents might be reduced to a minimum.

In 1929 there were 126 more killed in the State than were killed during the previous year; in 1930, only 19 more; but in 1931 there were 58 less killed; in 1932, 280 less; and in 1933, 301 less. As a method of comparison, while there was only a

13% reduction over the entire reporting area of the United States, Michigan had a 26% reduction in 1932, and a 24% reduction in 1933, while the national figure was an 8% reduction. There is but one thing that can be given credit for this wonderful reduction under the rest of the country, for it was the only activity that had not been carried on during the previous years, and that is the program presented by the Automobile Club of Michigan and the most hearty cooperation of the teachers of the State.

Part of this program in 1937 was the organizing of 2,918 School Patrols with a membership of over 40,000 boys and girls, also 490 Girls Service Squads with 10,000 members, all of which were equipped and supervised by the Safety and Traffic Division of that club, which each year has organized safety clubs of nearly 400,000 children who took into the homes pleas for more care for the child of pre-school age. All this has had its effect on the accident problem.

In November, 1933, the Eighteenth Amendment was wiped off the books and accidents immediately began to increase from 924 in 1934 to 1660 in 1935, according to the figures supplied by the Michigan State Police. An analysis of that report showed that drunk driving or had been drinking increased 243% in 1935 over 1934.

According to a summary presented by Leon D. Case, Secretary of State, in May, 1937, covering the experience of his office in the revocation of drivers' licenses under the Financial Responsibility Act which was passed primarily to take care of those who having "judgment" rendered against them, failed to pay, he states that 247 licenses were revoked for failure to pay "judgment", and 9,872 were revoked for drunk driving. His report covers from the time it was passed, October 17, 1932, to April 20, 1937.

Ten years ago the Police Departments were able to apprehend at least 50% of the violators, which violations would eventually result in an accident or death, but each year there has come from the schools a great group of young people, 60%

of whom will drive either a passenger car, delivery wagon or light truck without any preparation for their job, and each year fewer and fewer violators were apprehended. During that ten years while the accidents to children from the age of 9 to 14 decreased, fatal accidents in which children from 14 to 19 were involved increased 130%, while those 20 to 24, inclusive, increased 157%, showing plainly that something would have to be done to prepare these young folks before they left school so that they could operate a car safely.

In 1935 in answer to numerous requests from pupils in schools, there was prepared by this department a book entitled "The Automobile" which contained a program for extra-curricular activities in the high schools that could be carried on by the pupils themselves and the young people in many schools started the program as laid down in this book.

In 1936 a textbook on Safe Driving was prepared through the efforts of the American Automobile Association and copies supplied to every high school in the state, and on request; 261 high schools were supplied with this textbook, one for every pupil registering for the course, and other material pertaining to the subject of safe driving was supplied from month to month. The first year, 65,000 pieces of safe-driving literature were sent into the schools in this state. The year 1937 showed an increased interest in this work, 200 more schools initiating a course in safe driving. This organization supplied free the tests and class books on this subject, making a total of 461 high schools that were doing something at least to prepare the boys and girls to safely operate a motor vehicle, and there is no question but what this activity will make itself felt by reducing accidents in the future.

In addition to the 461 High Schools this year we are servicing 8,200 grade and rural schools in the state with aids to teaching Safety, building into the subconscious minds of the children, beginning in the kindergarten, the fact that there is a hazard in the street, and then teaching them how to contact that hazard safely as they grow up through the grades. In

other words, building a "safety consciousness", on which, when they become of driving age, we will build the proper methods to safely operate a motor vehicle, and once more the teachers of the state must be given credit for carrying on such a worthwhile activity.

In 1927 when the Automobile Club of Michigan took up its active educational campaign, two men were engaged to call on the schools and sell them our program. Mr. Miles C. Bristol, a graduate of the University of Michigan in the medical department; and Lieutenant Howard G. Arntz of the Michigan State Police, and a graduate nurse carrying Red Cross First Aid teaching certificates, assisted in putting this activity over in the schools they contacted, during summer vacations. During this time they were assisting schools to organize patrols, and as there were few moving picture projectors in the schools, they carried their own projectors and showed Safety moving picture films and made Safety talks to assemblies.

As time progressed and the interest increased, three more men were added. Mr. Davis, a graduate of Boston Institute of Technology, as well as the Boston Conservatory of Music; Mr. Chester Parkin, Director of Traffic at Saginaw; and Mr. John Hasper of Muskegon, an experienced police officer with a college education, were engaged. The state was divided into territories and each of these men, equipped with moving picture machines, have been instrumental in building a safety consciousness in the minds of the children in the state.

During the summer months, these men made traffic surveys in the cities requesting them, without any expense to the cities whatsoever, and they have now made surveys in ten cities—six of which adopted almost the entire recommendations so far as finances would permit.

Mrs. James N. Downey, who for years had charge of Home Safety in the city of Detroit, was engaged by the club and detailed to this department, and as chairman of the Women's Safety Committee of greater Detroit, has been carrying on a

wonderful campaign along those lines in Detroit and throughout the state.

The Board of Directors feeling that we should have representative safety committees in every large center of the state, authorized Mr. William F. V. Neumann, who had been chairman of the Safety Committee of the city of Detroit for many years, to organize similar committees who work on local problems, and we feel that Safety has been very well covered in the entire state. But of course, there is still a great deal to be done, and the club is bending every effort to carry on an accident reducing campaign in the state.

During the past ten years, the Automobile Club of Michigan has supplied on request to the various municipalities in the state approximately 30,000 stop signs and school signs, at no cost to them.

THE FINANCIAL AND TAX HISTORY OF MICHIGAN

BY PROF. W. O. HEDRICK

MICHIGAN STATE COLLEGE

PUBLIC finance revolves around the matter of public spending and public receipts, and the Michigan governmental pattern therefore must be traced before an account of its finances may be given. This pattern is roughly similar to that of the other forty-seven commonwealths of the union with its strong central government, and its many arms reaching to all parts of the two peninsulas in the form of counties, townships, cities, and villages.

The state government itself is of the decentralized type with its threefold divisions and its elective, executive officers and numerous executive "boards" each independent of the other.

The county and township governments are rooted deeply into the pre-state period of Michigan's history while those of the cities and villages are the products of more recent times. Indeed, the township-county system is derived, so far as townships are concerned, from New England, Michigan being the only state west of the Allegheny mountains with the pure New England type of township, the symbol of which is the annual town meeting. On the other hand, the combined township-county system is copied from New York State,—a state from which many early settlers came.

Villages and cities, as these grew with the lapse of time, while allowed liberal tax and police powers for local purposes, were in general subject to the township-county system in respect to their non-local interests. The village was merely a part of the township and the city a part of the county when the more general aspects of the township-county tax system were brought into play.

An extreme bent toward local government was given Michigan by that devoted son of New Hampshire, Lewis Cass, the territorial governor during the formative years from 1813 to 1831. Under this governor, Michigan from the first, adopted

the type of township government which uses the New England town meeting, and the local centers of interest set up in this way have done much to magnify in Michigan this local form of government at all times. General Cass seems indeed to have taken well to heart the maxim of his great leader Thomas Jefferson, that "it is in those New England divisions known as townships that the future of democracy lies", since his messages to the territorial councils often repeat "whatever authority may be conveniently exercised in primary assemblies may be deposited there with safety". At all times, after the first flush of statehood was passed,—the public ownership and control period—the local units of Michigan such as townships, counties, cities, and villages have been given much control of schools, roads, poor relief, police, and taxation, and a somewhat lax and modest type of State government has been the result. In recent years, a trend toward more centralized control has been shown, and state functions and expenses have grown steadily in size.

The settling of the Michigan territory was feeble and unimportant until the year before statehood was attained when something like that common feature of land settlement in America—a "boom"—took place. In the three years of 1835, 1836, and 1837, the number of settlers grew in this territory from 87,000 in 1834 to almost exactly double that number, and more land was bought and sold in Michigan during one of these years—1836—than had been bought and sold during the commonwealth's entire previous history. The Utopian efforts of these "boom" settlers must be noticed now since they quickly brought bankruptcy upon the new state. They also left a legacy of financial disorders out of which came many of Michigan's fiscal agencies and customs, such as the public debt, the primary school interest and other "trust" funds, the dislike for state owned public works, the pay-as-you-go policy in state finance, and many changes in the tax system.

The "boom" period of 1834-1836, the new state's birth time, was indeed one of the most lively and eventful epochs of the

commonwealth's history. Among the more notable events of this trio of years was the "bloodless" boundary war fought with the nearby state of Ohio; the adoption of several state constitutions; the setting up of a state owned system of three railroads and one canal, each to cross the state from east to west, and each partly finished; two complete systems of banking, that of the "safety fund" and that of "free banking" adopted one after the other within a two year period. Under the second law, more than sixty banks had been begun within a few months. Besides these, a complete school system, including a state university, a state commissioner of education, and an entire plan of graded public schools was launched; a centralized scheme of state government with appointive officers save only governors and lieutenant governors, was set up; the Upper Peninsula was added to the state; a model plan for handling the federal school lands was adopted; a short-lived state owned bank after the Indiana type was founded; a state issue of paper money ran its course; and crude finance in the fiscal handling of the new government caused the partial loss of a \$5,000,000 loan, the claims of which plagued successive legislatures until the final settlement in the late eighties.

Added to all these activities was the receipt of a corrupting loan of \$286,000 from the national government as the state's share of the far-famed "federal surplus" distribution,—a loan which served as oil upon fire in causing further "boom" results. The United States government was repeatedly defied as to the admission terms for the new commonwealth with the outcome that our state courts hold that Michigan was admitted to the union upon one date, the federal courts hold to another. "The early settlers were not mad men", said one of them, Ex-Governor Felch, at an anniversary celebration many, many years later, "but they certainly were enthusiasts."

This prodigy of state craft lasted but little longer than the time given to its creation. Within thirteen years, another state constitution was adopted in which many of the "boom" period actors took part. The very full records and proceedings of the

1850 convention by which this document was drawn up show men of large views and high character in control, and the disgust with the political day-dreaming of the state's formative period was most thorough. The state-built railroads had long since passed into the hands of private owners. The commonwealth had not been able to finance fully the state bank of the early days, and it, like three scores of those founded by private means, had failed.

The school system even under the glowing care of its first chief, John D. Pierce, was seen to be far in advance of its time, and was remodelled into a more suitable form. The Ohio boundary dispute had been lost by Michigan, and the Upper Peninsula had been forced within our state limits, no one knowing at the time of the rich mineral deposits located in that rugged region. The depreciated state-printed treasury notes had dragged slowly to their end plaguing their authors everywhere, for while the commonwealth treasury must pay these bills out to private owners at full face value, they were quickly returned again to the state's strong box, much discounted, as tax payments. Added to all these local troubles was the severe business depression of 1836-1843 which swept over the country at this time and hastened and completed what political day-dreaming had left undone. Save for a hero, the materials for an epic were not lacking in the events of this first decade of Michigan's history.

FINANCIAL INSTITUTIONS OF MICHIGAN

The State Treasury, Auditor's Office, and Board of State Auditors. The Michigan system of financial agencies began with a law in 1805 from the territorial governor and judges which set up the office of territorial treasurer. The terms of the law gave the new official the duties of public bookkeeper also, since we read that "he shall examine, state, audit and settle all accounts, claims and demands against the public," and also, "he shall receive and safely keep all public moneys which shall be paid into the treasury". The usual legislative

control over the public purse was voted in this same statute also, in the familiar terms that "no money shall be drawn from the treasury, but in consequence of appropriations made by law," and this basis of good finance has formed a part of our organic law ever since.

Heavy, seemingly, as were the duties thus laid upon the state's pursekeeper, the office was so little needed that Governor Cass in 1824 asked its termination, since "the federal appropriations made by congress for the expenses of Michigan Territory"—handled by a federal fiscal agent,—“has so reduced the demands upon the territorial treasury that there is no need for such an office.” Not only did the federal fiscal agent relieve the territorial treasurer of many duties, but this treasurer's duties were cut into from still another direction. The growth of counties and townships of which there were now nearly a score of the former, had caused many functions previously performed by central authority to be given these local units such as the handling of roads, schools, crime, poor relief, and taxes, and this allotment of state's functions to the localities relieved the central treasury still further of duties. Patronage must have its due, however, and in 1829 the duties of the treasury were divided—a part staying with this office, and a part going to the setting up of the office of state auditor.

The functions of this latter office were to be “the auditing of claims against the state and also of those in favor of the state, the keeping of the state accounts, and the making of annual reports to the legislature upon state finances.” These vital services have remained the chief tasks of the Auditor General until the present day, though magnified in size many times on account of the growth of the state. The off-spring in this office division process was destined to a much more important role in state affairs that was true of the parent. The state auditors from the first took up the duty of budgeting the state's annual outlays, and until the coming of an official budget director, lately, the annual reports of the auditor

general contain a survey of the state's finances as to the sources of revenues and the proper objects for which expenditures should be made. The Auditor General in brief became in large part the fiscal head of the state.

The minor part in the state's fiscal system played by the treasurer's office is most striking. So many of the functions of this office were given indeed to the auditor general that little was left to the State Treasurer's office except the safe-keeping of the moneys. During the entire history of Michigan as a territory and state, the custom has been followed of using the ordinary commercial banks for keeping the state's treasure, and laws have laid down from time to time the type of banks which should be used, and the terms under which state revenues should be left in their charge. The new Michigan government adopted both offices, as they had stood during the territorial period, by a statute of February 17, 1836, and both remain the most notable units in the state's fiscal system of today.

The mass of state claims and counter-claims which sprang up from the internal improvement activity of the next few years had by 1843 fairly swamped the Auditor's office, with their urgent needs, and under these conditions a relief agency became necessary. The Board of State Auditors made its entry through this need by a law of 1843, and the constitution of 1850 continued the life of this board in the following terms—"The Secretary of State, State Treasurer and Commissioner of the State Land Office shall constitute a board of state auditors. They shall examine and adjust all claims against the state not otherwise provided by general law". The duties of this board have been defined often by law and are now apparently those of a court of claims—though far less active in this duty than the Auditor General's Office—and, also, those of overseer of the state's property. Its functions have been added to both by statute and by constitutional law so that at present it performs a range of rather unrelated services.

State Accountancy. The first state government found an urgent need for bettering the state's bookkeeping system. The territorial receipts and outlays—especially those which came wholly under the control of the central government—had been so trivial during this pre-state period that no attempt was made to classify the treasury revenues and expenses into funds or accounts of any sort. Outlays voted by the legislative council of this time simply created orders upon any moneys in the territorial treasury, and no order had any preference over any other. Indeed, the law-making bodies themselves of both Michigan Territory and the early state audited, at will, claims for and against the government, so haphazard were the public business methods of those days. Auditor Hastings as late as 1842 complains, "The practice which has prevailed for several years of auditing claims not previously examined by the state auditor by committees of both houses of the legislature deprives him of the data from which estimates can be made and renders it impracticable to present an accurate statement of outstanding debts."

State Funds
— 51 —
But with the growth of the state's business, some organization of the state's accounts became necessary, and a joint resolution of January 28, 1840, commands the State Auditor to "open a set of books exhibiting the appropriations made by the legislature, from the period of the organization of this state, together with the payments thereon, and that he continue to keep accounts with the several appropriations hereafter to be made." The "fund" or account system of bookkeeping grew from this provision, and a fair view of the state's various interests may be had from the lists of these accounts which appear in the Auditor's books from time to time.

The "funds" themselves, aside from the trust and sinking funds, discussed elsewhere, number now several score and some have had notable histories. The credit balance of several thousand dollars with which the Capitol Building Fund was closed in 1879 for example, is praiseworthy in the respect that a State Capitol should be built within the limits of its original

appropriation. The Specific Tax Fund has become also an object of public good-will, since from this source the Primary School Interest Fund gets its chief support with all that this implies in respect to keeping up our public schools. Naturally, the General Fund is the oldest and largest of the list. The fiscal confusion which followed the "boom" period of Michigan history gave frequent and alarming wrenches to the whole system of state funds since no one of these was exempt from the raids of a needy treasury. Moneys were used often for the most pressing need no matter to what fund they belonged, but since ready cash is often a pressing need to government the integrity of funds has suffered many times since when this need was felt.

The State Administrative Board. The vastly enlarged expenses of both local and state units after the great war urged the use of a more centralized control of Michigan's finances than had been the case before, and in 1921 the State Administrative Board was set up. This agency has for its members the Governor and heads of the various state executive offices, and in addition to the general duty of looking after state business, has three prime financial functions. These are: first, the oversight of a state purchasing service which does the buying for the state and state institutions; second, a state accountancy system the duplicate in sphere of the one in the auditor's office; and third, a budget director who should prepare budgets of the "board" or "administrative" type for the state authorities. A genuine service is done no doubt by a budget of this sort since it shows in summary form state costs for the year past and state needs for the year to come—an exhibit which owing to size, number, and variety of details only a specialist can make. Naturally, in the case of the central purchasing service the buying of goods in wholesale units does much to lower the price which must be paid.

The Trust Funds: Primary School, University, Agricultural College, and Normal School Funds. The group of funds or ac-

counts whose names appear in the title above vary so widely from the ordinary treasury funds or accounts as to merit separate treatment. The trustee relation which the state bears to these funds, and from which the title "trust funds" arises, is an outcome from the gifts of land for school purposes received by the state from the federal government. These lands, briefly named, were the 16th sections of every township for primary schools, 75 chosen sections of land for the State University, 30 thousand acres per Michigan congressman for the State College, and certain salt lands for the four Normal Schools.

The lands given in this way were commonly known as "school lands" and the state promptly declared the policy in its first constitution in respect to this gift that "the proceeds from these lands shall be and shall remain a perpetual fund for the support of education." The identity of the lands, which were to render these benefits, appeared from time to time as the national government quashed Indian titles to various parts of Michigan Territory, and brought these cessions or purchases under the well-known American system of land survey. Some eighteen counties, in fact, had been laid out in southern Michigan during and prior to 1836, and suitable divisions into townships had been made within these counties. As this organization had gone on, titles to the proper school lands were given up by the federal land office so with the coming of statehood, there was no small acreage of school lands to be looked after by the new member of the union.

Michigan was the fourth commonwealth to benefit from the federal government's land gift of each township's 16th section for school purposes, and a public property specialized in this way became a focus of interest to local residents as soon as the township itself was settled. Indeed, no little effect upon our political beginnings has been assigned these 16th section gifts of land. They have been likened in respect to township life to the nucleus within the cell of an organism, and John Fiske in his *Civil Government*, claims that "this reservation of

one mile square in every township for purposes of education has already most profoundly influenced the development of local government in our western states. The schoolhouse, in the center of the township, is soon found to be useful for many purposes . . . A vigorous township government tends to grow up about the school house as a nucleus, somewhat as in early New England it grew up about the church." *help power*

The long infancy that Michigan went through during her territorial period of 30 years, gave ample time for these nuclei-like growths to work out according to form, aided as they were by the natural love of New England settlers for education, and by Governor Cass's well-known devotion to local government. The growth of civic life around school lands of which our author speaks, was vastly helped, therefore, by stimuli from all these sources in Michigan. But whatever of township life these 16th section nuclei inspired in Michigan was limited strictly to the territorial period, since with the coming of statehood an entirely new method of handling these lands was adopted, and they wholly ceased to be of local concern. The convention from which the first state organic law came, phrased a rule, accepted by congress, which provided "that sections numbered sixteen in every township of the public lands, shall be granted to the state government itself, for the use of schools." The gift of the 16th section in Michigan was to be a gift to the state as a whole in other words, rather than to the localities within the state as had been the case elsewhere, and the reasons for this change grew plainly from recent painful events in school land history.

The pre-state plan for dealing with these lands, which gave rise to this history, first appeared in fact, as early as 1828, when a law was passed requiring the naming of three trustees in each township, who should have the care of its 16th section. The famous land ordinance of 1785, which set up the township plan of land survey, made no further provision with regard to these 16th sections than to reserve them from sale to private buyers and to devote them to public use. The rule alluded

to above which was followed during Michigan's territorial period in dealing with these lands was to get a rental from them, when possible, though this plan was badly hampered by the short lease system which was used. It was the evil results from this rental method that prompted the new plan of handling from the State Capitol alone these 16th sections—a plan which has been followed generally by other states ever since, and may well be called the Michigan system.

The State Superintendent of Public Instruction became, with the adoption of statehood, the custodian of both the school lands and the school funds which resulted therefrom, but the discord in principle between such duties, and the other functions of this official soon became clear, and called loudly for a change. This official in fact was chosen usually because of his educational skill, but a large share of his time was taken up with the care of school lands and school funds, which were questions wholly of a commercial nature. In 1843 the office of Land Commissioner was created, one of the duties of which was the control of school lands while at the same time to the State Treasurer was given the custody of the school moneys. Not only had the school lands been badly dealt with in this early period, but the school funds also had been illy used. Governor Barry reports a deficit in these funds in 1843 "owing to the looseness with which the accounts were kept by the first superintendent, and many counties and individuals were remiss in both their payments of interest and of principal upon these lands."

The handling of school lands and school trust funds suffered indeed from the same failures and confusions during the first few years of state management as was true of other public efforts during these formative years. A law of 1837 provided that the school land's minimum price should be eight dollars per acre, soon reduced to four, and with such easy terms of payment as to almost destroy returns of every sort. It provided also that the receipts from these sales should be loaned

in the first instance to the different counties that might wish to borrow, and the residue, if any, to individuals upon approved security—a disposal of the funds which, under the circumstances of the 1836-1843 business depression then prevailing, was but little short of giving them away.

The climax to this faulty dealing with school land money was reached in 1841, when the state ceased the policy of loaning school funds to counties and individuals, and began the policy of borrowing them itself. The receipts from the sale of these lands in brief were to be used for general state purposes, but the state pledged itself to interest payments upon the sums used in this way, and the so-called "perpetual" debt from state to school land interest funds was begun in this manner. The play of accident contributed so largely to the origin of this new plan that some account of its beginnings will now be given.

State borrowing of school land receipts, as the new policy may be named, was due at first wholly to the desire of Michigan in 1841 to make its treasury notes—now the state treasury's only cash support—more creditable than had been the case. This it would do by taking them in payment for school lands for which in spite of the current business depression there was some sale. Nothing, however, for which these depreciated notes were a legal tender could expect other payment for itself than treasury notes, and such school lands as were sold during the treasury note era—1841-1845—were paid for in nothing else. Since these notes were issued by the state treasury, and were redeemable by it, a debt from the state to the school land fund was thus set up as plainly as though the state had borrowed from this fund directly. But the fact that the treasury handled the receipts from school land sales, and also the redemption of the notes received for these lands, meant, therefore, the payment of money from one account in the treasury to another account in the same office. Now, the treasury was wholly lacking in money, and the note redemption

process was allowed to lapse, nothing else being possible, and the unredeemed notes received by the treasury for school lands became the basis for the state's perpetual debt to the school funds. In fact, the notes received for school lands were never redeemed, and the debt of the state begun in this way has continued to the present time.

The justice in this plan of making the state a perpetual debtor to the school lands fund was first set forth by Governor Barry in 1844, who remarks that "since the beginning of the issue of treasury notes, the sum of \$32,266.23 of that species of state indebtedness has been received from sales of school lands, and the further sum of \$6,484.36 from the sales of university lands. These remain in the state treasury since treasury notes may not be re-issued but for claims against the general fund. The above sum should properly be considered as a loan to the state"—since treasury notes were the state's notes—"and accruing interest paid thereon as upon other claims against the states."

An empty treasury, as was that of Michigan from 1840-1845, welcomed funds from any source, and the receipts from school land sales were gladly accepted. By 1845, the state treasury and school fund tie had become fully made, since Auditor Adam, in his report for this year, declares "the amount due the school land fund from the state, owing to the sale of school lands by the state and the receipt of state treasury notes therefor, may be considered a permanent loan to the state, so long as the interest is punctually paid, . . . and if so, it may certainly be considered equally as safe an investment on behalf of that fund is if loaned to the counties, and much more safe, (if past experience is any guide) than if loaned to individuals on bonds and mortgages." These notable Michigan financial institutions, the various educational interest funds, therefore, were set up in this way by the force of events, and not at all by direct planning by any one.

But this borrowing plan has not gone without criticism since as late as 1861 Governor Blair declares "the state debt

to the educational funds accumulates yearly, to an amount equal to the whole amount of receipts from the school land sales, which are the foundation of the funds. I think it is time that this practice should cease, and therefore recommend to you the passage of an act requiring the re-investment of the principal of the educational funds, whenever any considerable amount of such principal moneys shall be in the treasury. Such investments might very well be made in the bonds of the State". The "perpetual debt" to the school funds policy on the part of the state was, at this late date, however, of too long standing to be easily reversed, and will doubtless remain a feature of our finance structure. Some ten and a half millions have been received by the state from school lands during its history, and a half million of interest money is divided annually among the various schools at the present time, though, as will be shown later, the very large sum which makes up the Primary School Interest fund is fed from another source.

The School Interest Funds—Primary, University, State College, and Normal Schools. The school land funds, themselves, supported from the sales of school lands, as told of above, showed at first little promise of interest receipts or other earnings of any kind. The counties and individuals to whom by law the funds at first were loaned, turned out to be poor debtors, and in most cases not only was the interest lost but also the principal, since the business depression of 1836-1844 made either debt or interest payment by anyone a matter of great difficulty. The case was helped but little, indeed, when after 1841, the state itself became the sole borrower from the land funds, although it promised the high interest rate of 7% upon its borrowings. Unable, indeed, during this period of treasury note issues—1841-1845—to pay even salaries, the state failed also in interest payments upon its school fund borrowings, and for several years these accounts were but little more than slightly preferred creditors among the many which were voted payment from an empty treasury by the lawmakers.

The sale of the state railroads in 1846 to private companies changed all this. This indeed brought welcome treasury relief since the new owners were obligated for tax dues which gave to Michigan the first reliable income that had thus far appeared. The railroad tax itself was a specific levy of $\frac{3}{4}$ per cent upon the paid-up stock and upon the bonds of the railroad companies, and was payable directly to the state treasury. It was felt, in fact, that since these utilities formerly had belonged to the whole state, their tax payments should return also to the state treasury for the benefit of the whole state, and here was begun the so-called "unitary" taxation of railroads in Michigan—a method which has become popular among all the states in recent years. It was the certainty of this income, however, during the state's financial stress period, and not its merits as taxation technique, which made the chief appeal to early lawmakers. This matter of certainty was the feature that caused contemporary public school partisans to seize upon these railroad taxes at once as the best possible means for paying interest upon the borrowed school funds.

Auditor Bell may be credited with the discovery of this treasure trove, since in his report for 1847, he recommends that railroad taxes be devoted to meeting interest on the state's borrowings from the school land funds. This would "only be proper", he declares, "since these debts are rightfully chargeable to the state-owned railroads", the treasury notes which the state received for school lands having been issued for the purpose of paying for these roads.

The adoption of Auditor Bell's views by the lawmakers of 1847 brought another of Michigan's financial practices into being. This is the one, followed ever since, of using railroad taxes to swell the primary school interest fund assets, and this most esteemed of trust funds, thus fed, has been a major support of Michigan's public schools until the present day, making, in the belief of many, a veritable bulwark for the system. The use of railroad taxes in this way, further, was far along toward becoming a fixed practice by the simple force of custom, when

the 1850 constitutional convention hurried the outcome by providing that not only railroad but all other specific taxes should be used for school purposes, a rule that seemingly grows more popular with the lapse of time. The devotion of specific taxes to this end was not easily brought about in the 1850 convention, however, since the state treasury had only lately (1848) become solvent, and tax receipts of every sort were in demand for many other purposes than school support.

The partisans of the plan for using specific taxes in support of schools urged the fact of precedent in favor of their view, the state having for several years applied these taxes in this way. The especial needs of the schools were also pointed out, namely, that they were of such nature that the more of certainty in their support, the greater the success of their efforts. The existing debt of the state to the school trust funds was also urged as a reason for special tax provision, and the necessity was shown that interest payments should not be subject to the whims and caprices of lawmakers. The clause adopted reads as follows:

"All specific taxes, except those received from the mining companies of the upper peninsula, shall be applied in paying the interest upon the primary school, university, and other educational funds, and the interest and principal of the state debt, in the order herein recited, until the extinguishment of the state debt other than the amount due to the educational funds, when such specific taxes shall be added to and constitute a part of the primary school interest fund."

The educational funds—primary school, university, college, and normal school—through this clause in the constitution were assured steady incomes, and the basis also was laid for future sinking funds through this constitutional provision for feeding such funds. Security of school support, however, was by no means the big result for these agencies in this 1850 provision, since interest payments have formed but a small part in late years of the primary school interest fund receipts. The notable clause in this 1850 provision is the one which assigns the

residue of specific taxes to the primary school interest fund, since these taxes feed this fund at the present time (1930) in the ratio of 62 of specific taxes to 1 of school land funds. The Supreme Court declared the state debt paid in 1881, and the immediate transfer of specific taxes from state debt to school lands interest fund has enlarged this latter enormously. The other educational interest funds benefit only from the certainty with which they will be paid, due to the ear-marking of specific taxes for this purpose, but the primary school interest fund has received more than \$15,000,000 per annum from these specific taxes for many past years.

Specific taxes, indeed, are by far the most notable Michigan revenues, ear-marked for certain purposes, and this provision of special taxes devoted to a popular cause has had much to do with their permanence in the Michigan system. The methods, therefore, of applying the primary school interest fund, now almost identical with the specific tax fund, is an essential part of the state's fiscal system, and will be described here in brief. The law of 1837, the original state primary school law, enacted that "the proceeds from the primary school interest fund should be distributed to the various local school districts, on the basis of the number of children of school age within each." The gift also must be used for no other purpose than the payment of teachers, and the plan in this way begun has been followed almost without change until the present time. Indeed, the state courts have held lately (1929) that no other division of the fund is tenable under our present organic law.

The sum sent out in this way is in the nature of a bounty from the state for the help of education, and the feebleness of results typical of bounties generally as compared with other governmental outlays, readily may be found here. The amount has averaged since the adoption of the ad valorem utilities taxes early in the present century, an annual sum of many millions or a per capita payment of more than seven dollars for each school child in the state. A recent report from the Department of Public Instruction shows that 1,296 out of

7,276 school districts in the state receive each year larger amounts than they can lawfully use—this money must be used for teachers' salaries and tuition—and have on hand from \$500 to \$5,000 of primary school interest fund, the result of balances from previous years. In return for this bounty, the state secures the holding of a five months' minimum of free school in each district under legal teachers. It also gets certain data as to school attendance, requires the support from teachers of teachers' institutes, and the use of certain fit school apparatus and some minor returns.

On the other hand, this plan of dividing the fund gives a rough sort of justice to the utilities from which it is derived. The sharing is on the basis of the number of children within a district or area, and plainly this gives to the cities a larger amount than is received by the country regions. A public instruction superintendent's report for 1907 shows that one-quarter of the entire school fund was assigned that year to the ten largest cities of the state, with Detroit receiving nearly one-seventh of the total amount divided, and the status of these shares is but little different at the present time. However, the outlays for the care of these public utilities—railroad, telegraph, and telephone companies, etc.—in the way of fire, police, and sewerage protection, fall upon the cities at which their principal properties are located, and are no small expense. Some justice, therefore, is seen in the fact that these cities are repaid in part at least for these outlays through the large receipts secured by them from the school fund. Benefits received by the utilities, in other words, are repaid to the city benefactors from the larger shares of the utility tax revenues which these cities receive.

THE CONSTITUTION OF 1850—The constitution of 1850 remodeled the state government by making the various state officials independent of the chief executive through depending upon elections for their offices rather than upon him, and by giving a new bent to certain fiscal policies and to taxes. It forbade, for example, the future use of state money or state

credit in promoting the so-called "internal improvements"—a position held to steadily and fully until the 1905 change in the constitution which allowed the building of our present road system. "Once bitten, twice shy," describes the attitude of the state toward taking direct part in industrial growth after its early experience. So strong also was the feeling in this convention against banks that a motion to prohibit them entirely was ably supported, and at any rate no law for legalizing them was to be passed without a vote of the people. Finally, the denial to the state of the right of granting special charters to private corporations cut out much of the irregular and special types of taxes which had hitherto marked Michigan's history.

THE PUBLIC DEBT AND SINKING FUNDS

Beginnings of the Debt, and State Bankruptcy. The bewitching effects of "boom" times in Michigan's early history showed themselves in the reckless way a large debt was incurred by the new state. During the first three years of statehood, debts were made in fact, which took more than forty years to repay. Within six years the state treasury became bankrupt, and in the debt payment process, so much was left unpaid that Michigan has been classed with the debt repudiating states of evil repute. Michigan indeed came to statehood in flush times, times when the familiar checks upon state borrowing of later days were still unknown, and the new member of the union followed its fellows in meeting expenses everywhere by the use of credit instead of taxes.

Unusual expenses went with the new state, in fact, from the start owing to a boundary war with Ohio, on account of which two extra conventions and three sessions of the first legislature were called, and a small army of 1300 men was mustered upon the Ohio border. The state, in fact, made first use of credit at this time in paying for these war costs, since Act No. 2 of the first session of the first legislature provided for a loan of \$100,000 for war purposes through selling state bonds. The opening up of the new state to settlement by means of state-

owned railroads and canals was early decided upon, and these too were to be built on credit, an act of March 1837 arranging for a loan of \$5,000,000 with which to finance the different varieties of these utilities. Further than this, private railroads were also subsidized, since acts of November, 1837 and of May, 1838, issued the bonds of the state in the amounts of \$20,000, \$100,000, \$100,000, and \$100,000 to the Palmyra and Jacksonburg, the Detroit and Pontiac, the Allegan and Marshall, and the Ypsilanti and Tecumseh railroads, respectively as state aid to private business.

The founding of a school system resolved upon by the first legislature was also done by the use of credit, a law of July 1, 1838, providing bonds for a state loan of \$100,000 to the Board of Regents for the uses of the State University. Both of these last named bond groups, it is true, were made liens upon the earnings of the agencies helped, but since neither the railroads nor the university made any earnings, the real effect of these bonds was to create new charges against the state treasury.

The local political units of the day showed great laxity in turning over to the central government the direct tax révenues due from them, and largely to promote friendly feelings, the state began by law of 1837 to replace to the local treasuries each year their delinquent tax losses. For this purpose, the state issued annually to the local treasuries, state bonds to the amount of the tax delinquency, and received as security for these bonds the control of the delinquent taxables. The amounts of such bonds varied from year to year—though owing to the 1836-1844 business depression, they were never trifling—but perhaps never exceeding in one year the sum of \$182,625.67, reported by Governor Barry in 1842. However, they were always bonds of the short-time order, never drawn for a period of more than two or three years, and as a result might prove a treasury threat by falling due at a critical time. Finally, the last of the chief objects which gained from the use of state credit was the State penitentiary. Bonds amounting to \$20,000 for the building of this agency were sold by a law of April 1,

1838, and again to the amount of \$40,000 through a law of July 1, 1839. The second largest bonded debt which Michigan ever incurred was built up in this way within a few months.

Unfunded or "floating debts" were also incurred by the new state, and of these the simple book credit sort were first in point of time. But, besides these, the custom also grew up of issuing anticipatory treasury warrants upon the various funds as a means of satisfying creditors. The internal improvement contractors, for example, would receive their pay in warrants drawn upon the internal improvement fund in anticipation of income to this fund; teachers would receive pay through treasury warrants upon the school funds in anticipation of school land sales, etc. A loan of \$40,000 for current expenses was voted in a law of December 28, 1837, and was effected by the use of treasury warrants upon the general fund, and Governor Barry's message in 1842 mentions \$150,000 of this sort of paper as outstanding at that time.

The revelry in credit, described above, was not limited to the state government alone, however, since the same statute books which approved these loans showed also large borrowing privileges granted to counties and other local divisions, thus adding to the total debt which Michigan taxpayers must sometime pay. Taxation, the alternative resource to that of borrowing, offered no help at this time further, since in no year during the first decade of statehood had the deficit between levied and collected taxes been less than \$16,000, while in one year a deficit of more than \$82,000 appeared. Auditor Hastings in 1841 reporting that "during the first four years of our State government a debt (delinquent tax debt), of nearly \$400,000 has been created". Deficits of this sort, while not certainly making legal claims against the state treasury itself, nevertheless serve to show the weakness of the tax basis at this time as a means of avoiding debts. Added to this floating debt and to the state's funded debt, shown above, was the "federal surplus debt" of \$266,151.49, the result of a loan from Washington in 1836, and still looked upon as a liability by the state government.

Further than these debts, a blow was felt by the state through the loss in 1841 of \$535,000 of deposits in the defunct Michigan State Bank where the state's balances were kept.

Two events, however, took place in 1841 which ended this period of hectic finance, and left Michigan a confessed bankrupt. These were: first, the issuing of state treasury notes based upon an expected \$1,000,000 installment from the "five million dollar loan", and second, the total failure of this great loan. "The state is absolutely without means for defraying the expenses of government", says Governor Barry in his message at the beginning of 1842.

Interest-bearing treasury notes, meant to circulate as money, had been issued by the state treasury to the amount of \$253,800 in 1841. They were put out in denominations of one, two, five, and ten dollars, were legal tender for taxes and debts due the state, and were redeemable at the option of the state treasurer. This was really, in fact, an issue of non-redeemable paper money since the relation to the "loan" installments as security was nominal only, and as events turned out, no further installments were received. The notes declined in value at once, and the report is made in 1843 by Auditor Hastings, "the receipts into the treasury since this depreciation have been almost wholly in these notes, and so long as this paper continues much below par, the taxpayers and other debtors to the state will use nothing else". The swift decline in value of these notes on the one hand, and their monopoly of the taxpaying function on the other, left the state treasury with two options as to how it would be ruined, but none at all by which to escape this fate. The failure of the lawmakers to make appropriations for interest this year (1842), now grown to an amount of more than \$250,000 per annum, shows the straits to which the treasury had come.

The Five Million Dollar Loan the other of the two evils of the times, is famous in Michigan history, because it is the second largest debt ever incurred by the state, and also on account of the legacy of problems which made up its history.

The purpose of the loan was to build the state owned public utilities of early years, and it was made in the second year of statehood. The failure of this loan was the cause of many results. Its failure seems to have banished at once Michigan's "boy governor" from the state, it related railroad taxation to public debt payment for many decades, its partial disavowal by the state, listed Michigan among the "repudiation" commonwealths and, finally, a decision of the supreme court was necessary to settle its maturity.

This loan as provided by the law of 1837, required the issue of bonds with a twenty-five year maturity date, the payment of six per cent interest, the support of a sinking fund, and the requirement of face value when sold. In marketing these bonds, Governor Mason found the "depression" of 1837-1844 in full swing, and no better terms could be obtained than to leave the state's securities with the United States Bank of Philadelphia, whose war with President Jackson had lately ended, and with an affiliate bank in New Jersey to be sold by them upon commission. The banks, however, after selling one-fifth the bonds to the public, for which they returned full value to the state, sold the rest to themselves upon an installment plan made by themselves. Upon these latter bonds less than a quarter of their face value was ever received, both banks, in fact, becoming bankrupt in 1839-1841. These latter bonds became known ever after as the "part paid" bonds. The fatal effects of this installment lapse upon the Michigan treasury notes of 1841 has been told of above, but the more vexed question as to whether these "part paid" bonds should be redeemed at all stayed to plague Michigan citizens for many years. Innocent purchasers in good faith from time to time bought the Michigan bonds from the banks, and looked to the issuing state to redeem its debts. The state was stubborn, however, as to paying for bonds from which there had been no receipts, and in the end these were redeemed only at very great discount.

SOLVENCY RECOVERY.

The morrow of the state's bankruptcy in 1841, found many reforms in progress for restoring public credit. A summary of the state auditor's report at the end of 1841 shows Michigan's debt as follows: "Five million Loan" bonds with accrued interest, but with unpaid part deducted, \$2,958,489.99; county delinquent tax bonds, \$141,330.00; treasury warrants on various funds, \$293,766.15; balances due school funds, \$31,047.19; treasury notes \$110,767.00; a grand total of \$3,535,420.33.

Specific treatment for each of these debt items now became the business of the state's managers, and an early law of 1842 made the fatal treasury notes redeemable by the treasury as fast as received, though the lack of cash in the state's strong-box delayed this process for several years. The state subsidies to counties for delinquent tax relief were dropped at once, and a tax law adopted which provided the so-called "county system" of handling delinquent taxes,—a system of complete local handling of this evil which was to be tried again in the later history of the commonwealth. The treasury warrants upon the various funds were left in the main to be cancelled by fund receipts as they came in, but not a few years went before these were sufficient for the purpose. The future use of state credit was checked also by amending Michigan's basic law so that a popular vote must be taken before further state borrowing could be done. This was carried further in the 1850 constitution when a flat amount of \$50,000 was made the limit of the state's borrowings except in time of war,—an amount much further enlarged by the constitution of 1909. Most of the state bonds were not yet due for payment, but interest upon these bonds was long since overdue, and this was now to be paid by an issue of new bonds—interest bonds—to the principal holders of the state's securities.

However, treasury relief of a notable sort came only from the sale of the state-owned railroads in 1846. A sale of this sort had been debated by the state managers ever since the "boom"

time visions of state-owned industry had collapsed under a burden of technical problems, the loss of the "five million loan", the treasury breakdown, the bank failures, and the "business depression". It was "as a means of discharging in whole or in part the state debt that the proposition for a sale is urged", says Governor Felch in his message of 1846, when advising the lawmakers "that unless the amount received should be such as to cancel this debt or to afford substantial relief from it, the object of a sale would be defeated".

The state then by the terms of the sale, was to receive \$2,500,000 for the roads, and the two buying companies were allowed to pay into the treasury any sort of state debt paper agreeable to them—a chance not overlooked in view of the low value to which some of this had fallen. Michigan's discounted securities, now added to by years of unpaid interest debt paper, were not scarce, and as a result the roads were paid for almost wholly with state bonds and warrants. The public debt in fact was reduced directly in this manner without further treasury action of any sort, and the entire remaining amount at the end of 1846 was roughly two millions and a quarter,—a liability not beyond the state's capacity to carry by its ordinary resources.

The state debt commission, which in 1842 took up the matter of the state's bonded debt and especially that of the "five million loan", found in respect to this latter that a total of \$2,342,960.24 in cash had been received. Of this, \$1,387,000 came from the sale of the "full paid" bonds (the bonds sold the public by the banks when acting as agents), while the remaining \$959,960.24 was part payment upon the bonds the banks had sold to themselves, namely, some \$3,613,000 worth of bonds. Further, this last situation was found to be full of danger since \$2,658,029.76 of salable bonds remained with the two now bankrupt banks—bonds, which being bankrupt banks, they were under no legal duty to make payment for as further sales were made. No delay was made by Michigan in taking liability for the "full paid" bonds, a funding law for this purpose being passed in 1843. But on the rest, the \$3,613,000 worth of

bonds, the "part paid" bonds for which \$959,960.24 had been received, there was greater difficulty.

Many were the devices used by the state treasury to coax these bank-bought "part paid" bonds, now the property of private investors, back again into the treasury. The bond holders insisted upon face value for their holdings, but against this the state was adamant. In 1848 the state offered two new \$100 bonds for five \$100 old bonds, with the claim that this settlement ratio of 2 to 5 was the best that could be expected. Seven years went by without acceptance by bond holders, and then, under a threat from the state of entire interest suspension, some \$2,319,000 of "part paid" bonds were returned for conversion, and a few years later the rest. Thus at a sixty per cent discount and with back interest ignored, the doubtful part of the five million dollar loan was cleared away. Professor Scott, in classing Michigan with the repudiating states, accepts a definition of repudiation which avowedly is of a loose type. He admits to holding to the letter of the deed rather than to the spirit, and as a result is severe in thus placing Michigan among the defaulters.

Treasury warrants were redeemed during the 1850 decade as the condition of the state's finances allowed, and so also were the rest of the discounted "part paid" bonds. On the other hand, the "aid to private railroad" bonds of early days, upon maturing in 1857, found the state again with an empty treasury owing to the business "panic" of this year. Not only must the limit of \$50,000 be borrowed for ordinary state expenses at this time, but the maturing bonds were converted into another twenty-year loan known as the Renewal Loan.

Sinking Funds. The use of sinking funds for debt payment had been provided for by the state leaders when making the "five million dollar loan", but this and several similar attempts in respect to the debt in question were without success. The fact now, however, in 1861 that a large renewal loan of nearly \$2,000,000 must be made the following year,—the "five million dollar loan" falling due at this time—revived the notion of sink-

ing funds, and a new one was set up. The state, in 1861, made the new loan at an interest rate of six per cent, redeemable during twenty years, and also set up the so-called two-million-dollar-sinking fund to insure the ultimate extinction of the debt. This fund was to be fed by ear-marking certain public receipts, such as an eighth of a mill property tax, parts of the school fund receipts, and the annual specific tax surplusage over school fund obligations. These sums were used each year in the purchase of available state bonds at market rates, and a similar sinking fund was set up this same year (1861) for the payment of a \$249,400 war loan, and a few years later another was provided with which to pay a war bounty loan of \$1,306,000. All of these sinking funds were of the simple surplus-accumulating type, and none of them made any use of the compound interest principle. They were built up from year to year by using the ear-marked receipts, named above, for the purchase of state bonds when these were to be had.

The growth of these sinking funds were very irregular, since the state securities were much more free for purchase at one time than at another, the two years 1867 and 1879 offering none for sale, while the two other years, 1873 and 1883, presented a round half-million each upon the market. On the other hand, the yields of income to the fund were rather uniform in their amounts and frequent surpluses were the result, with such temptations to government as usually come with surpluses of every sort.

A transfer of \$466,828.40 to the general fund in 1875 was a good example of the way temptation worked. The state governor of this year, wishing seemingly to make a showing of low taxes, and upon the plea that certain loans from the general fund to the sinking funds had been made, got the transfer of the sum shown above, though in the face of vigorous opposition from the state auditor. The evil itself of robbing a sinking fund was not the only basis for objection from the auditor, but the legality of so doing was also in doubt. The sinking funds were getting by this time their entire income from the debt

tagged specific taxes, and the use of these revenues in the general fund, the auditor urges, "is using—and hardly under the veil of indirection—for other purposes than are prescribed by the constitution, money derived from specific taxes". The normal history of state sinking funds treatment everywhere was thus duplicated in the case of Michigan.

Specific taxes, while the most fruitful of supply sources to the sinking funds, were also the most troublesome. Taxes of this sort were slow to take part in the support of the sinking funds; and indeed, they seem not to have been considered in the original plans for these agencies. Eight years after the sinking funds had started, however, specific taxes had become so rich in yield through the growth of specifically taxed industries that a revenue far larger than that ear-marked to the school funds was the result, and by law this must be applied to the public debt. Annual surpluses of this sort grew rapidly from year to year, and soon no other revenues were needed for supporting the sinking funds. Specific taxes, indeed, soon became no less troublesome to the treasury on account of their bulk than had formerly been the case on account of their smallness. The state's organic law provided, however, that upon the ending of the state debt, the residue from these taxes should go wholly to the primary school interest fund. In 1880, therefore, the auditor general claimed that a much larger income was at hand than would discharge the state debt, most of which became due three years later, though a remnant of the War Bounty loan was not payable until 1890.

If the debt were to be looked upon as paid when the means for this purpose were at hand, then the primary school interest fund would have specific taxes at once. On the other hand, if debt payment waited for actual bond redemption, then several millions of tempting surplusage must accrue before the schools received a benefit. The Supreme Court gave the opinion,—though by a divided court—that the debt had been fully requited through securing means for this purpose; the sinking

funds thenceforth had no real purpose, and were speedily brought to an end.

The retiring message of Governor Luce to the legislature of 1891 announced the final payment of the state debt in the following words: "For some years ample provision has been made for liquidating the bonded debt, but as all the bonds had not matured they were not paid up until within the last year. And now for the first time in our history we can say with pride that the last dollar of this class of indebtedness has been paid."

"MUNICIPAL AID TO RAILROADS" MANIA

The close of the Civil War inspired a Michigan business revival which took the form largely of activity in roads and railroads building. The state entered into a costly policy of wagon-road building, and the newer portions of the Lower Peninsula, at least, were reached in all directions by these so-called "state roads" built at public expense. However, the complete proof of the hunger for better travel facilities at this time is found in the acute activity shown in railroad building. During the four years after 1869, the railroad mileage of the state had nearly doubled,—1,999 miles in 1869 and 3,806 in 1873—and Governor Baldwin, speaking of this fact in his message of 1873, asserts that "railroads have unquestionably been the most important causes which have led to the development of the state within the last few years."

Something, indeed, like the "internal improvements" mania of Michigan's first years, was repeated here, since these roads were built largely by the so-called "municipal aid" from Michigan's local units. The "municipal aid movement", as this activity was called, consisted of railroad building by township, county, city, and village governments, owing to the fact that the 1850 constitution forbade this to the state. The violence of this mania may be seen by the passion with which railroad projects were taken up everywhere. Lansing, the state capital, for example, in one year (1869) was the focus of six railroads, all of them of the "municipal aid" sort, while two more had

been granted "articles" to build to Lansing and still another was being promoted. Lansing was already the terminus of a "land grant" road and of another built by "municipal aid". No trade demands could possibly have been found in a mid-state city of 6,500 residents to warrant the use of eleven railroads, and public excitement probably must be credited for the birth of such a plan. The legislatures of 1865 and of 1867 received petitions from scores of local units for enabling acts by which roads might be aided, but the apex of such chances was reached in 1869 through the adoption of a general "aid" law. By this law all these minor agencies were given power to help at will, and municipal aid now became the order of the day.

Pleasing as results like these must have been to railroad partisans, the debts incurred by the local units in giving aid were extremely large, and stirred enmity to the movement from the start. Governor Crapo, the state executive during four years of this period, vetoed more than twenty enabling acts voted by the legislature of 1867, and condemned in many strong messages the whole "aid" policy. The press of the large cities also were fixed in their hostility, and a decision from the State Supreme Court in 1870 declared "aid" debts wholly illegal, and though the U. S. Supreme Court held to the contrary, this state decision is still the law for Michigan. The whole movement came to an end, however, when a special legislative session failed to nullify the state court's decision by securing a constitutional amendment favorable to "aid". The "aid" was usually in the form of a gift of its own bonds from the local unit to the railroad, and the total of these debts was enormous, though not capable of exact statement, since through being declared illegal, they were no longer redeemable.

Another sale of bonds took place in 1898 for the purpose of paying the state's Spanish-American War expenses. By Act One of the special session of this year, the sale of bonds to the amount of \$500,000 was provided for with interest at three per cent, and payable at any time after five years. The war loan sinking fund of the Civil War period was re-opened, and

a tax of one-eighth mill per annum was levied to support the new loan. The loan was promptly discharged at its maturity.

THE STATE HIGHWAY DEBT, AND RECENT LOCAL DEBTS

7 The automobile and post-war prosperity in Michigan spurred governments, both state and local, to unusual activity, and the resulting growth in public debt soon went far beyond anything the state had ever thus far known. The Michigan constitution was amended in 1905 to permit the state government to build improved highways, the latest form that the hitherto forbidden "internal improvement movement" had taken. In 1919 the state's organic law was again amended to permit the sale of \$50,000,000 of bonds for highway building purposes, thus making by far the largest debt the state had ever had, and a sinking fund was set up for its payment. A few years later a soldiers bonus debt was incurred, and the total interest charges upon these required an annual tax of some \$4,000,000, or roughly the total amount of state tax in 1908. Paved roads from town to town implied also paved streets within the towns, and as a result of this and of other local outlays, city, town, county, township, and school district debts have grown apace. The Industrial Conference Board in 1930 awarded a total debt to Michigan of \$598,787,000 of which more than four-fifths was pledged by school, township, city, and county units. The state, in fact, was shown to class with 14 others in having a per capita debt from all units of more than a hundred dollars, and is today very far from the almost debtless state of the early years of the century.

TAXES IN MICHIGAN

The specific tax. Michigan from the first permitted itself the luxury of two distinct systems of taxation, the "ad valorem" and the "specific". The latter is a tax on various units of things such as weight or number, and is much easier to apply than are taxes based on some form of evaluation. This was the great merit of these taxes in early days when property

values were vague or lacking and tax methods but little developed. Thus in 1805, a law imposed a tax upon dogs, carriages, sleighs, and a poll tax upon men as being levies upon the most certain subjects from which a revenue was possible. Besides the state use of these taxes, they are also used by local units as in the cases of city taxation of saloons and of street railways. In addition to the subjects named above, tavern-keepers, auctioneers, peddlers, banks, brokers, mines, railroads, plank roads, telegraph and telephones, street railways, freight, sleeping and parlor cars, express business, insurance companies, liquor, franchises, inheritances, gasoline, mineral oil, malt, cigarette sales, and mortgages have at various times been taxed with a specific tax. The administration of these taxes has been vested usually in some state official or commission, and their returns have gone usually for special purposes like schools or roads or payment of public debts.

The revenues from these taxes at all times have been fairly adequate to paying the costs of the State government, had they been used for this purpose; in 1929, for example, specific tax receipts equaled a sum of more than 25 millions of dollars while the state expense was some 29 millions. In spite of income yields of this sort, however, specific taxes have been in Michigan at all times occasional taxes only, giving way at once to the ad valorem system when suitable methods of assessment and collection have been devised for taxing things upon their value. Nearly all the kinds of properties shown above, for example, are now taxed by ad valorem methods, mortgages alone having reversed this process and undergone removal from the property tax to the lists of things assessed with a specific levy.

The permanency of specific taxes in Michigan's finances has been helped vastly by the fact that these taxes are also in the main, special taxes, i.e., taxes ear-marked for a special use, such as in Michigan chiefly for the support of schools. The substitution of ad valorem railroad taxes for specific ones, for example, in the early years of the century would have been

much more difficult of doing if the proceeds from the new tax had not been tagged for school purposes the same as the old. The close equality between specific tax receipts and state government costs has prompted several movements for devoting these taxes to this special purpose. This has seemed to be all the more desirable owing to the fact that specific taxes were collected into the state treasury before going out to the school districts in the annual school fund distribution. The plan naturally was thus suggested that they be used by the central unit while in its possession rather than suffer the wasteful process of redivision. In every case, however, plans of this sort have been turned down by the lawmakers through the fear that school support would be hurt in some way by such a change. The basic law of 1850 devoted all of these taxes to the payment of state debts and the support of schools while that of 1909 required that only those hitherto used for this purpose should be so continued. New specific taxes were to be free from this limitation.

Some state executives have praised these taxes, others have condemned them. Governor McClelland in 1853 declares: "The specific taxes should be carefully husbanded. If properly attended to, they will soon defray all the expenses of the state government and yield a handsome income to the educational funds." Governor Rich in 1897 stated, "If the state constitution were amended so as to permit specific taxes to be placed in the general fund, an amount sufficient to provide for the wants of the state government could well be raised in a manner much more equitable and less burdensome to the people than by the present method."

On the other hand, strong grounds are taken against these taxes by Governors Bagley in 1871 and Pingree in 1897, the former declaring, "Specific taxes on real property for state purposes is a system that contains in it more injustice to the people, more inequalities and irregularities than any other system that was ever devised"; and the latter, "The policy of continuing the system of specific taxes as the sole resource of

the state from corporations . . . has long been regarded with disfavor by the people of the state."

Specific Taxes on Railroads. The peak period of the use of specific taxes in Michigan began with the levy upon the gross earnings of railroads in 1871. Railroads had enjoyed a rapid growth in Michigan due to the post civil war prosperity, to the joint effects of "municipal aid" and the federal land grant subsidies, and to the great pine lumbering movement of the seventies and eighties which gave them a very lucrative traffic. The roads were grouped for tax purposes into the old, well placed and rich lines known as the "charter roads", due to their working each under an especial charter, and the "general law roads" which yielded to the rule of the general railroad law. The former numbered a half-dozen and were taxed, if at all, by a levy on their stocks and bonds, while to the latter, numbering forty or more, the new gross income tax applied. The new tax law kept up the worthy Michigan method of state taxation of these utilities as against the local taxation system prevalent in nearby states, and gross income "per mile" was used as a device for grouping roads as to their "ability to pay".

The rates levied upon gross incomes were progressive, but never high enough to cause complaint from any line as to excessive severity. The tax lasted thirty years, though reformed as to rates three times, and in the end nearly all the "charter roads" had accepted the impost. It was a model law, too, for taxing other public utilities such as express and fast freight lines and businesses of a similar nature. The gross income tax has many merits as an impost upon railroads, but as used in Michigan, railroads became a favored class of property since the burden carried by these roads under the later ad valorem tax is several times that which was carried under the gross income system.

Insurance taxes and inheritance taxes, though the latter is not strictly a specific tax, follow the same general course that is true of railroads and other public utilities as to their administration. Both are handled by state officials, and the proceeds

from both are devoted to the public school interest fund. The inheritance tax is of the same type as those used in other states, and has been in force in Michigan for more than thirty years.

Recent Specific Taxes. The non-school-support-specific taxes include such imposts as the motor vehicle (weight) tax, the gasoline tax, corporation tax, bond and mortgage tax, malt tax, and severance tax. All of these are of recent date, since the use of specific taxes for other than school or debt support has been possible only since the constitution of 1909. The two first ones in the list have been the most productive specific taxes of any in the history of the state, exceeding even railroads in their annual yields of revenue. Plainly, both have to do with the motor car interest, and the proceeds from each are used in the building and up-keep of roads, making therefore that most agreeable of taxes, namely, those for which a direct benefit is received by the payer of the tax. The two taxes, in a way, round each other out also, the weight tax giving support to roads from residents of Michigan, the gasoline tax giving support to roads from car-using visitors from outside the state. The rest of the specific taxes are used for various state purposes, some of them even being dependent for collection upon local officials.

Michigan has had at all times like other states a large range of licenses, special assessments, and fees, and some of these have been termed specific taxes—the mere fact of using a method of taxation different from the property tax being sufficient at times to cause the use of this term “specific tax” in naming a new impost. Thus peddler’s and vendor’s payments for the right to sell were in early days termed specific taxes, and liquor license receipts in later days were so named, but in 1899 a supreme court decision made plain the meaning of the term much to the betterment of official grouping of taxes since. The whole subject of licenses, fees, etc., deserves description, since a large public revenue comes from these sources, but the data is lacking and in many cases wholly unattainable. Many of these charges,

for example, are made by local units whose records are not easily reached, many by officials whose records are secret, and some are collected and paid out by the same office, so that even a guess as to the total amount would have little merit.

The Ad Valorem Property Tax on Public Utilities. The general public utility properties of the state,—railroads, telegraph lines, telephones, fast freight lines, sleeping car companies, etc., were removed from the specific tax lists in 1901 and became thenceforth subject to a tax on valuation. Set off thus from specific taxes by using property values as the tax base instead of specific units, and separated from the general property tax by the use of a state board for assessment purposes instead of the familiar local assessor, a unique tax was created to which the name "ad valorem property tax" commonly is given. The struggle over the adoption of this new impost easily ranks first among the political battles of the state, both for intensity of feeling, length of time taken up, and size of issues involved. The combat is described in some detail below, first as a showing of the price paid for better methods of taxation, and second, as an example of a Michigan class struggle to overcome the "interests". Governor Pingree, the champion of the new tax, had been for four years prior to 1897, the "reform" mayor of Detroit where he had earned the sobriquet "Potato Patch" Pingree, due to his planting the vacant lots of the city with tubers as a relief measure for the needy in the business depression of 1893-1897. Something of a dramatic touch was given the termination of his four years of tax reform struggle, since seeking health recovery he died at Cape Town, Africa, a month after his term of office ended. The new tax law was signed by his successor, and its author, though hailed as a victor, was denied the enjoyment of actual fruits from his efforts. To the real difficulties which lay in the way of tax reforms, not a few were added, without doubt, by the methods and bristling personality of the reform leader himself.

Specifically taxed public utilities, on account of the 1893 depression, were looked upon as tax "slackers" and "evaders"

by those paying the more regular property tax long before Governor Pingree took up the cudgels for tax reform. The business depression itself was so acute and widespread that the ordinary state and local tax levies were met with difficulty by the people and were causes of deep complaint. The gloom of the Michigan taxpayers is fairly reflected by the lawmakers of 1895 in setting up the new office of State Tax Statistician. This official, in general, had duties similar to those of the familiar special state tax commissions, but the efforts of the first statistician to solve single-handed and, at the same time, all the problems common to taxation were fairly destructive of any benefits from the office of any sort. The State Board of Equalization in 1896 reduced the equalized property values of the state by twenty-five millions from its total five years earlier, and during the same period, too, the assessed valuation of property was lowered by more than six millions, thus showing the depressing effects upon values of a business "panic".

Both the old and the new governors at the end of 1896 devoted large parts of their messages to the subject of taxation. Governor Rich, who had been hampered during both terms of office by large annual treasury deficits, urged the merits of laying a general corporation tax, a franchise tax, a tax upon building and loan associations, upon banks and mutual benefit and fraternal organizations, upon kerosene oil, and upon salaried persons,—in all no less than six new taxes. Governor Pingree was even more urgent for tax reform, which would relieve the property taxpayer, than was the retiring executive, and, in addition to those already named, his message proposed the ad valorem tax on public utilities and an inheritance tax.

The lawmakers of 1897, to whom these messages came, grappled at once with the reform problem, and it soon became clear that burdens would be put upon railroads, since within the first few weeks of the legislative term more than forty railroad tax bills were proposed. A special railroad tax message from Governor Pingree toward the end of the session focused interest upon his plan and gave a definite turn to the search

for new revenues. The Governor, in brief, urged that the roads paid less taxes from the property value point of view than other property paid, that the gross income tax was non-elastic and was sterile of revenues in times of business decline, that the Michigan system was not uniform with other state systems, and finally, that Michigan got less revenue from railroads than did other states. "Equal taxation", the slogan of the tax reformers, the Governor claimed, could come only from identity in tax methods, and therefore public utilities should submit to a tax on property values the same as did other property.

No bill, however, thus far had been drawn which would place the railroads under a property tax and still keep up the unitary method of state assessment—a method without which no new tax was possible since this had been the method in Michigan from the first. Indeed, no less an obstacle than the primary school interest fund opposed the giving up of the state method of railroad taxation for the local one, and all agreed that this hindrance was quite immovable. When a bill providing a railroad property tax but state administered was ready during the second year of the Pingree term, a special legislative session was called, and a debate rarely given to tax measures followed. Hearings were granted the roads during the early days of the session, and their attorneys tried to teach lawmakers the views of taxes held by roads. Former state governors were called. One of these, ex-Governor Rich, denounced the proposed law, and defended the railroad gross income tax; another, ex-Governor Luce, claimed an "equalization of the tax payments made by railroads with those made by other property was much needed." One United States senator wrote a letter against any railroad tax change; another senator favored a reform of these taxes.

The early hearings on the bill lasted several days, and showed one thing only upon which lawmakers agreed, and that was the conviction that more taxes should come from railroads. The railroads alone opposed changes of every sort. "Railroads", said the road lawyers, "are a peculiar property—a property

dedicated to public service", and as a result special places should be given them in taxation. Michigan railroads were claimed to be costly property owing to high operating costs, and gave but little profit. Especial dislike too was shown for the proposed franchise tax in the new law, and complaint was made also that other property failed in paying taxes. Finally, the gross income plan of road taxation was warmly approved by all road attorneys as having the qualities of an ideal system. The bill had two days of debate in the House, followed by two more in the Senate, and in the former body received an almost unanimous vote—three votes alone being against it, while in the latter body it failed by the narrow margin of two votes.

The subject was now squarely before the people of the state, and in the fall state elections of 1898, "equal taxation" was the campaign question at issue. The platforms of both parties endorsed the reform, the Republican platform naming the recently defeated measure—"Atkinson Bill" as it was called—as being worthy of support. The state grange and the state farmers' clubs at their annual fall meetings, speaking for farmers, used strong words of approval for the new tax. No doubt was felt at any time as to popular enthusiasm for tax reform since the reform catch word "equal taxation" and the usual popular dislike for railroads, both served to strengthen the attitude for reform. The new tax, in fact, had been asked for by more than 70,000 petitioners, when before the special session of 1898, and the amendment to the constitution in 1900 allowing the adoption of an ad valorem tax law was carried by a half million plurality—a plurality more than twice the size of any previous total amendment vote in the history of the state.

The newly chosen lawmaking body in 1899 took up promptly the task of making a reformed railroad tax law, but a struggle kept up for months followed,—so stubborn were friends of the old tax in spite of the two years of favorable agitation that tax reform had enjoyed. Before joint committees of the two houses, railroad attorneys for the second time urged their oppo-

sition to the proposed new tax, but as the debate went on, popular agitation again came to the help of the bill. The State Association of Township Supervisors, the state meeting of farmers' institutes, and many of the county conventions, meeting to name candidates for the Supreme Court, voted strong approval for the pending measure.

The new law, when finally passed and duly signed by the Governor late in March of 1899, was quite as short-lived as its enactment had been lengthy. The State Supreme Court, during the next month, ruled the act void because it was not a specific tax since property values were levied upon, neither was it a general property tax since the uniformity rule of property taxes was broken by using a state board instead of the usual local officers for assessment purposes. The most steady criticism which had followed the bill during its course toward adoption was the charge of violating the state's basic law which knew only specific taxes or those on general property, and it was the governor himself who brought the suit which destroyed the long sought law.

The foes of reformed railroad taxes were rewarded with victories from time to time during the first half decade of reform struggle which delayed not a little the passage of this still-born law described above. The regular session which first had to do with "equal taxation", for example, was made fruitless for reform by the adoption of a new highly rated gross income railroad tax—the Merriman law—which served as a "red herring" to the proposed ad valorem tax. The passage of the faulty law whose court fate has just been described, may be looked upon as a victory for the non-reformers, also, since none knew better than they that the new law was faulty, but another legislative session was spoiled in its adoption. These foes of reform too gained still another victory in the 1899 session, namely, the setting up of a state tax commission which should show the state-wide evil of property under-assessments, and therefore by example, that railroads were no more backward than other property in respect to paying taxes.

The commission, as named by Governor Pingree, however, proved a boomerang to the non-reformers. It was of the mandatory or "strong" type of commission, and showed at once a vigor and capacity for re-assessing the property of the state which soon brought this taxable to its proper valuation. The railroads also were given an expert valuation by this commission known as the "Michigan Railroad Appraisal", which went far toward convincing the public of the suitability of the property tax for use upon public utilities as proposed by the reformers. In the wave of physical evaluations of railroads which swept over the country a few years later, this early Michigan appraisal was a boon in showing how this difficult task should be done and the commission itself secured such a place in public esteem through its successes, as to become since, a permanent fixture in the Michigan tax system. The foes of reformed railroad taxes shifted their grounds from time to time, but in the main, opposed the reform measures as being legally unsound, as being a menace to the beloved primary school fund, and as being bad through putting more property under the methods of the very faulty general property tax. The fact that some of the largest roads in the state were "special charter" roads, with special tax obligations and not, therefore, subject to a general tax law, made the remaining roads hostile to being picked out alone for this new tax plan.

An amendment to the state constitution at the fall election of 1900 allowed the enactment of the new type of tax—the ad valorem—but at the regular 1901 legislative session a struggle lasting through two months was still necessary before the new tax law was secured. The measure had been endorsed now for the third time by the platforms of both political parties, and both the incoming and the out-going governors urged its adoption upon the lawmakers.

The struggle at this time was not upon the principle of reform, since even the railroads now accepted the ad valorem system as to principle, but upon the details of the new law. Should the new law include telegraph, telephone, express,

sleeping car, and chair car companies together with railroads? Should a separate board of assessors be created, or should the tax commission handle the law? How should the rate be set? These were the most difficult details met with at this new legislative session.

The bill was finally drawn to exclude telegraph, telephone, and sleeping car companies and to include the others, and its handling was left with the Board of Tax Commissioners, enlarged to five members. The tax rate was to be the average rate at which all other property in the state was taxed, but a serious dispute took place as to this "average". Should it be simply the state tax totals divided by the total property assessments or should a weighted divisor be used on account of the general under-assessments of property in the state? The partisans of each plan were so stubborn that no agreement was possible, and finally certain phrases were adopted with their meanings left to the courts for explanation. The bill which had monopolized the time of three regular legislative sessions, and was the sole subject of debate for four special ones, received the signature of Governor Bliss, May 2, 1901.

The new tax, after its adoption, had lengthy attention from the courts. In 1902, suits were brought in the federal courts by twenty-eight Michigan roads for annulment of the law on constitutional grounds, and against the first tax levy under the law as being excessive. The suits were lost by the companies both in the lower courts and in the U. S. Supreme Court, and after a period of not less than eight years from the time of its beginning, the ad valorem taxation of railroads became, on June 21, 1905, the railroad tax law of the state. The new law increased the tax revenues from the roads some 200 per cent, the average annual receipts for the last three years under the old law having been \$1,771,351.19, while those under the new law for the first three years were \$3,458,220.69 per annum.

Additions to the system from time to time brought all sorts of state public utilities under its methods, and an amount of

property equal to one-seventh the assessed valuation of the state was taken from the specific tax system, and given to the ad valorem system by the new system. The new tax is, briefly, a levy upon general public utilities assessed by a state board of assessors, ex-officio members of the State Tax Commission. The tax itself is the average of all the rates in the many governmental units of the state, and the State Tax Commission may equalize the assessed value of general property with that of public utilities so as to prevent inequality in this rate. The new tax became a sort of fore-runner among the states of the union as to a new method of taxing public utilities.

THE MICHIGAN GENERAL PROPERTY TAX.

Property has been used as a measure of taxpaying ability from early times in Michigan—a law of 1809 setting forth a list of properties to be taxed, and the methods of so doing. Listed properties only were at first taxed, but before the end of the territorial period the phrase “and all other property not exempt” was added to the law, thus supplanting a listed property tax with the more familiar general property tax. This tax at all times until 1932 furnished from 75 to 85 per cent of the revenues used by political units in the state, and at the date named was taking annually some $3\frac{1}{5}$ per cent of property earnings or values, when the great business depression forced a retreat. The assessment of property in Michigan, the correction of the assessments and the collections of the tax, as well as other details, have followed closely the type of general property taxes in other American states, though modified here on account of certain special properties such as mines and forests which other states may not have.

The tax has been regarded as a satisfactory one during most of its history in Michigan if one may judge from the way properties taxed under specific rates have been removed time after time from that impost and placed in the general property lists. So, too, in the “equal taxation” struggle of the late

nineties, all the usual agencies for reporting public opinion in Michigan showed the belief of citizens that a uniform tax upon property, as seen in the general property tax made an ideal impost. Most of the provisions of the Michigan tax at all times have been copied from other states, originality being granted this state only in respect to the mine tax and in some details of the tax on railroads. The tax on property, too, in Michigan has been an "apportioned" one, expressed in definite amounts, while in many other states a fraction has been used, known as the tax rate.

Property assessment at "full cash value" has been the provision of the Michigan tax law most relied upon for attaining tax uniformity. An almost fantastic faith in this device has been shown,—all general tax laws and all supreme court decisions upon the subject, for example, urging the rule of "full cash value" in assessing property. On the other hand, the reports of many state auditors and of many tax commissions claim utter futility for this provision, and assert that Michigan property is seldom assessed at full cash value and that such an achievement is the exception rather than the rule. The practices of tax officials in this respect, in fact, are on all fours with many other arbitrary methods used by them in handling the tax. The truth is that a tax law borrowed like the Michigan law in the main from other states, must have many adjustments made to fit it for the social and physical conditions of a new political unit and new political surroundings. The contrasts in Michigan between wealthy city property and waste plains property, between mines and forests, between farms and lake vessels, make a confusion seldom found in other states, and give a severe task to a property tax, the first rule of success for which is similarity in the properties levied upon. Tax officials further have made many more adaptations than were made by law and, as a result, special bulletin No. 172 from the research section of the Michigan State College truly claims, "The Michigan property tax is

characterized by property descriptions that do not describe, assessors who do not assess, supervisory officials who do not supervise, equalizations which create inequalities, and a legal standard of values which is avowedly abandoned by tax officials. The tax is so unsuited to modern society that its continued operation is largely the result of ignorance on the part of many taxpayers and good nature on the part of the rest."

Some thirteen general tax laws on property have been passed during Michigan's history, usually modifying the earlier law by adding to or taking from the lists of exemptions, by transferring some property from the taxable list to a new impost or vice versa, or by altering some detail of collection methods. In 1891, for example, mortgages were taxed with a new impost, known as a "registration tax," and this intangible was thus removed from the property group. In 1881, telegraph and telephone companies were separated from ordinary business companies, becoming subject to unitary taxation upon their capital stock values, and in this way succumbing to the property tax principle. State constitutions in Michigan always have provided for a property tax, and at a uniform rate.

Exemptions of property from taxes were called for first, when in 1833 taxes on particular lists of property in Michigan were replaced by taxes on all property generally, or when, in brief, a general property tax took the place of a tax on property. The tax exemptions showed at first only the usual types common to states everywhere, such as government property, church and school properties, and a few others. But, by 1923 the varieties and the amounts of free properties had become a threat, and the tax commission's report for that year points out that one-twelfth the private property of the state was in this free list, and the burden upon other property was felt keenly.

The exemption of public property, for example, while most easily justified of any exemption, has caused serious trouble

in Michigan. At first, the federal government's wide-spread land holdings fairly starved many local units pecuniarily, since little was left for a township tax base after the free federal holdings had been counted out. Later, the growth of tax free publicly owned utilities in villages and cities removed much wealth from tax rolls, and later the state-owned northern "reverted" lands failed the local units through being tax free, and thus prevented these units from getting adequate revenues. So grave, indeed, is this lack that the state lately (1932) has begun the policy of paying these local units in which "reverted" lands are found, a small annual tax upon its holdings. Besides the usual tax-exempt property in the tax laws, the state has been liberal in granting special tax freedom to certain properties which the public wished to help. Thus certain railroads, 1857-1885; salt mines, 1857; mulberry trees, 1883; sugar beet crops, 1881; sheep grazing, 1823; broad tired wagons, 1883; received this privilege, and the enormous growth of public expenses in late years has made the exemption freedom a real boon to those that have obtained it.

Private business corporations,—the symbols of plenty to the modern tax official—came to the notice of government as likely sources of tax revenues at an early day. A law of 1828 listed shares of "bank stock, of insurance companies, and of other corporations" as liable for taxes, but there is much doubt as to the force of this law. Corporations, in fact, with the exception of "free banks", were formed wholly under special laws at this time, and whatever taxes were due from them were those that received mention in their charters. So little were taxes considered in respect to these new business forms, however, that not a few corporations secured tax immune charters and these paid taxes at will or not at all. The further privilege of life "in perpetuity" was freely given these new business types, and not a few cases there have been of tax free chartered companies having the privilege of life everlasting. One of these, in fact the Detroit and Pontiac Railroad Company of 1837, gave up its charter at heavy cost to the state at as late a date as 1925.

The 1850 constitution forbade special charters for business companies, and decreed that such business groups must be formed under general laws, the taxing of their property thereafter falling to the general property tax, the same as for other businesses. Some of these company-owned business units have become by far the largest taxpayers in the state, and the average assessor meets with no small task in trying to assess them. The special tax commission of 1910 showed the methods of taxing private business corporations to be the most faulty part of the Michigan tax law, and claimed that they, more than any other class of Michigan taxables, escaped the full share of tax burden. Not a little of this last, however, was cured later by the levying of the Federal income tax. The receipts from the general property tax for all purposes in 1932,—the last year of unlimited taxation—were \$256,777,083—making roughly a $3\frac{1}{5}$ per cent rate upon some 8 billions of property valuations.

THE AUTOMOBILE ERA, AND FINANCIAL RESULTS

Modern Michigan dates from the coming of motor car factories, the rise of this great industry having changed the state from a farming into an industrial commonwealth. The census of 1900, for example, gives the population of Michigan as 2,810,142, and this number was almost doubled during the next twenty years. Industry is by nature self-multiplying, and primary motor factory types, once set up in a locality, drew to themselves other business types as “feeders” or “by-product” users, and the spread of occupations thus went on until a large part of the state was benefited. Even a business so remote in nature from motor car making, as the dairy milk activity, was affected by the new pursuit. This food industry has grown into economic greatness in the state, with an annual return of 86 millions per year, largely as the result of the city growth caused by motor car manufacture.

The motor car industry reached its peak between the years 1915 and 1930, owing to the stimuli of war and of post-war

prosperity, and ranked first during this time among the various manufactures of the country. The causes of localization of motor car making in southern Michigan and adjacent parts of nearby states are commonly laid to the earlier prevalence in these regions of wagon, carriage, and buggy factories, and thus, it is said, there was afforded in this area a supply of workmen trained to the making of wheeled vehicles. Some 183 wagon and carriage works, as a matter of fact, were listed in these southern Michigan counties by the state census of 1894 with the cities of Flint, Pontiac, Jackson, Detroit, and Lansing outstanding in the number which they harbored. The leaders in the automobile industry are also products of the region within which the industry is centered. One can scarcely think of a notable motor car maker, past or present, who is not a native of this region in which car making is supreme.

Prosperity of the spectacular type, such as the motor car brought to Michigan, is soon reflected in the many added public service outlays which take place, since the more people the greater the need of such service. This was markedly true in Michigan, since great as was the state's growth in wealth during the automobile period, the growth in taxes was even greater. Total property taxes levied here in 1914 for state, county, township, school, and town purposes were \$50,311,961.33, while for 1930 these levies had grown to \$234,394,644.76, or an increase of $5\frac{1}{2}$ times, while the tax rate of $1\frac{4}{5}$ per cent in 1910 had grown by 1930 to $3\frac{1}{5}$ per cent. The assessed valuation itself of property in Michigan grew from \$2,765,439,636 in 1914 to \$7,804,313,652 in 1930, or an increase in wealth of $2\frac{4}{5}$ times in a decade and a half.

Roads and schools account for the major part of this added expense to the state, though all public outlays were stepped up not a little. The U. S. Industrial Conference Board report on cost of government for 1928-1929, for example, shows Michigan as one of the four states in the union with outlays for roads in excess of \$90,000,000 per annum. The relation between

the growth of motor cars and growth of better roads is obvious, and the loyalty of the state to its chief industry as shown by highway outlays is certainly beyond doubt.

School costs, too, in this period, while undergoing a natural increase through the growth in population, were added to by the rage for new and costly school buildings which developed. The school buildings themselves were but slightly more in number in 1929 than in 1915, but the valuations for these buildings were greatly enlarged. Totals upon this sort of outlay were reported by the State Department of Public Instruction as \$416,758,085 in 1929 as compared with \$53,317,934 in 1915, and show plainly the results of the new fashion in buildings which had come to prevail. Prosperous Michigan, indeed, would scarcely allow the private buildings of the village or city, anywhere, to exceed the public ones in looks, and few were the numbers of villages and cities during this time that built no palatial new school building.

The growth of taxes in the various units of the state during a half century (said to have increased 1,126 per cent since 1900) is shown below. So, also, the equalized valuations of the property of the state are shown.

PROPERTY VALUATIONS, PROPERTY TAXES AND TAX RATES SINCE 1869

	1869	1899	1920	1930
State Assessed Valuations.	\$253,869,606.00	\$968,182,087.00	\$5,319,702,886.00	\$8,460,234,915.00
State Tax.....	473,421.02	3,725,872.87	17,379,244.00	29,500,000.00
County Tax.....	1,947,489.24	2,485,328.12	31,411,171.51	58,933,105.31
Township Tax.....	3,269,465.27	5,303,154.77	47,176,446.31	83,782,440.22
City Tax.....	In Counties	8,399,985.85	19,915,999.80	75,655,305.50
Village Tax.....	In Counties	577,694.56	4,556,122.80	18,913,823.82
Tax Rate.....	2½%	2-1/10%	2-3/5%	3-1/5%
Total Tax.....	6,719,404.46	20,492,036.17	158,388,566.67	266,777,083.33

The business depression settled upon Michigan at the full tide of this prosperity. Public outlays were nearly the same for 1930 as for 1929, but the declines in property values and personal incomes for the 1930 date made tax payments a matter of much hardship. The State Auditor's report for 1931 shows

for this year that one-fourth the assessed property of the state was tax delinquent, nearly half the land of the state was delinquent, and more than 60 millions of taxes were unpaid. The next year (1932) found emergency "cuts" in public outlays the rule everywhere, but more property was delinquent and more taxes unpaid this year than the one before. Even the familiar device of forcing tax payments through selling the tax delinquent property failed in this great crisis, since there was no market for property of any sort, and the usual penalty of tax sales was neither a threat nor a reality.

The tax burdens upon property had become greater than property was equal to. The general property tax had broken down, and in the fall of 1932 an amendment to the state constitution limited the future tax rate on property to one and a half per cent per dollar. The lawmakers of the following year devoted the revenues from this source to the use of local units alone, and the one time popular tax reform of "sources of income segregation" for the different classes of political units was realized at last in Michigan. For its own support, the state government adopted a sales tax as the means for securing an income, and the burdens of this government were given a wider distribution than had been the case previously. Tax levies, tax assessments, tax equalizations, and tax collections are the usual notable features of a property tax system, and the last three of these will now be told about in respect to Michigan.

General Property Tax, Assessment. The Michigan methods of levying, assessing, and collecting property taxes were begun by the territorial governors and judges at an early date, and the later failure of the assessment process was the occasion for devising the equalization methods. An act of January 17, 1809, laid down the mode of assessing and collecting taxes for the territorial government, listed the few properties that should be subject to such a tax, and provided so extreme a penalty as a jail sentence for forcing the payment of these imposts. Local

taxing power for local purposes was given local units such as, townships, counties, villages, and cities, as these were set up,—the first case being Detroit in 1806—while counties were granted this right some fourteen years later. Counties, villages, and townships had become well organized by 1828 with boards of supervisors in counties for law making purposes; the town meeting for similar purposes in the townships; and the common councils in the villages. All of these had been given tax powers for local purposes, but by 1828 the growth in population further had caused the territorial taxes to be assigned the local units for administration purposes the same as has been the case since. The outlines of the familiar general property tax system were thus roughly drawn by 1828 with local handlers of the impost, and with counties and state dependent upon the locally prepared tax rolls for their revenues. Even local tax review boards had been set up for tax roll correction purposes by 1828, and the tax official of the present day would have found few strange features in the system of a century ago.

The key position in the working of property taxes, which townships, cities, and villages hold today, began at this early date through the dependence of state and counties upon these local units for their revenues, and few services given by these latter units are more notable at the present time than the control of this tax system. The working methods of the general property tax thus begun are similar to those used by states everywhere, and the method, in brief, requires, first the making of a local tax roll by townships, villages, and cities, from which base the other units—counties, drain districts, school districts, etc. collect their revenues. Later, the tax is collected by a local official after having been reviewed by a local board, and perhaps by the State Tax Commission.

The making of the tax roll has had the care from lawmakers which its importance deserves from the start, and minute rules for its make-up are laid down by every Michigan general tax

law in the state's history. The tax roll records an exhaustive property survey within the local unit assessed, and must be made each year in Michigan. The county supervisor upon whom the township tax roll duty falls is really the chief executive of the township, and at times has been held to a burden of services worthy of a more exalted office.

The taxes imposed upon this base are the expense totals of the various governmental units which feed from the property tax. Budgets for township purposes, which include salaries for the local officials, outlays for the care of local public property, and a few other things are adopted at the annual "town meetings" of the townships. The rural school budgets are adopted by sub-divisions of the township, but really operate as parts of the township tax. Villages and cities provide for their needs in a similar fashion through budgets made by elective bodies, and the outlays of all of these local units plus those of the higher governments are spread upon the proper tax rolls as levies against property holders in accord with their holdings. The tax roll now is passed over to another group of local officers for collection of payments. The number of these officials have differed from period to period during the state's history, since the hardships of getting about in early times caused a plurality of local tax officials to be employed—numbering as many as four of each kind in the early townships. In 1842, these numbers were cut down, and from then until now the supervisor of each township has been the official assessor and the town treasurer has been the official collector, though staffs of tax officials are still needed for the tax work of cities and some villages.

The annual county budget provides funds for the salaries of the county officials, for the care of the county poor, for the upkeep of the county courts and county buildings, and latterly for roads. These amounts have been voted, from pre-state times, by a gathering of the various township and city headmen in a county known as the board of supervisors, and at all

times no lack of skill in money matters has been shown in these smallest of law-making bodies. The sums called for by this budget are divided among townships in accord with the so-called equalized property values of each, and is spread upon the tax roll as county taxes, afterwards to be collected by the local treasurer together with other taxes. Supervisors' boards of these sorts, though lacking much through the fact of local division representation rather than of the county as a whole, have been, in general, fine training schools for those who were later to fill higher places in public affairs. The report of a recent (1933) state commission on local government comes out strongly for the single manager type of county handling, or at least a three man commission type, and pending reforms of this sort are clearly in the offing.

The placing of state taxes upon the others of the local tax rolls, until abandoned in 1933, was a matter of accident at first rather than a matter of design. The costs of the pre-state Michigan government were met largely from the national treasury, the deficits being filled in from specific taxes and a very few property taxes. But little idea was held by early Michigan public men as to the probable cost of a state government and the probable need for state taxes. The state tax law of 1836, for example, the first general law of this sort after the territorial period, suggests the rarity with which state taxes will be levied, by the clause "Whenever a general state tax shall be required, etc. etc.", and for many years the annual messages of governors offered the hope that specific taxes alone would be sufficient for the state upkeep.

A state tax from the local property tax rolls has been the pattern followed in Michigan, however, from the start, until the limitations on the property tax rate in 1933 gave the revenues from this taxable property to the local units alone. Each year the state auditor assigned to each county in harmony with its equalized property values, its due share of the state's expense, and this was spread upon the tax roll as a state

tax, later to be gathered up by the local treasurer in connection with his other tax collections. After the adoption of the 1933 limit upon the property tax, however, only the permanent outlays to the University and State College were raised by the state from local tax rolls, and this seemingly as a mere matter of form. (Abandoned in 1935).

Assessment Correctives: Equalization Boards and Mandatory State Tax Commission.—The general property tax is at its best when used for local units, but when to the local levies, taxes for counties and the state are added, the premium upon tax evasions is vastly increased. The fact that property assessing besets the local tax officials with wicked designs was found quickly in Michigan since as early as 1827, local Boards of Review were set up in townships, villages, and cities which should referee disputed cases of tax assessments among local taxpayers, and these boards are still a part of the system, and perform a useful service though falling far short of full success. The device of the "sworn statement" as a means for finding taxable property, also is found in this first taxing law, since "property owners upon request from supervisors must make a complete statement of their taxable property" is a requirement found among its provisions, but at the present time this is a rule "more observed in the breach than the fulfillment." The usual powers of levy and distress were given the tax collector in cases where there was refusal to pay taxes by this same law, and in 1833 the ability and integrity of assessing officers again were questioned by the law "that assessors should take oath that their assessment was the full cash value".

The tax officers in rural Michigan at least always have been elective and for short terms of office, and property values have suffered through the natural desire of officials to please their partisans by low valuations. The competitive-under-valuation of property by local tax units began, too, as soon as county and state taxes were added to the city, village, and township tax rolls since thereafter each local unit strove to lower its property valuations, and thereby reduce its share of state and

county taxes. The growth in late years of stocks, bonds, and credit paper has tested local officials to the utmost in making proper assessments on these properties. In view, too, of the small century growth in taxed things of this sort upon the tax rolls, the belief is widespread that tax remedies for this evil have lacked something of success.

Michigan's "boom" period of early days with its heavy pressure for tax revenues brought to view plainly the assessment failures of the state's tax system, though not the feasible methods for curing them. Says Governor Barry in his message of 1842, "It is believed that great inequality obtains in the valuation of property, not only in the different counties, but in the different townships and the matter will be proper for inquiry whether the fault is to be laid to defect in the law, or its administration." In the State Auditor's report for 1849, further, the decline in Michigan's property values for the ten previous years is shown to have reached the sum of \$13,043,726.36, or a fall in value from \$42,952,495.61 in 1838 to \$29,908,769.25 in 1848. "The aggregate valuation throughout the state", says Auditor Adam in speaking of this decline, "instead of advancing as our population has increased, in which case it would have more than doubled since 1837, has been either retrograde or about stationary. This evident undervaluation of taxable property in this state arises undoubtedly from the fact that supervisors obtain the lowest possible valuations for their respective townships."

The general property tax's age-long weakness, that of undervaluation, had now fully shown itself in Michigan. This is a defect sure to arise when this tax becomes the same source of revenue to various grades of political units as was the situation in Michigan from pre-state times. It naturally arises through the desires of local tax men to shift higher governmental burdens to other units than their own, and is accomplished through the reduction of its property by each local unit to the lowest possible value, and is in fact a regular competitive undervaluation of property among these units. The alarming

decline in the assessed valuation of Michigan property, in fact, became so great that in 1853 a Board of State Equalization was set up for the remedying of this condition. The first duty assumed by this board was that of adding some \$90,000,000 to the state's taxable property values making the \$30,000,000 of 1852 a full \$120,000,000 in 1853, and thus showing plainly the low degree to which property assessments in Michigan had fallen. The new board was to meet at five-year periods at first, but this was later changed to annual meetings.

Ex-officio state executives at the beginning made up the membership of this board, and this has remained generally true since. Its chief duty is, briefly, to decide after open hearings, whether or not each county's assessed property valuation is at true cash value and therefore uniform with the valuations of other counties, the totals of each county being set by the property within its borders. If not, the law says "the board shall equalize the same by adding to or deducting from the counties the sums that will produce equal and uniform values"—an equalization that is wholly nominal since the valuation of no property is changed by this action and the "sums added or deducted" are sums merely for purposes of record. The county board of supervisors had been given in 1827 the similar duty of equalizing property values among townships, and the new state board was simply an adoption of the earlier agency.

Both boards of equalization are in effect tax allotting agencies since their real function is to keep an even level of tax bases among the units under their charge, so that equitable shares of non-local tax burdens may be borne by each. The boards themselves make no changes in assessed values of property; they simply add to or deduct from the tax unit totals, the sum which will balance these units with each other, the whole purpose being to make an even base for receiving the tax burdens from higher governments. "Cash value" has been the symbol of perfect valuation to all these boards, and in theory property of all sorts needs only to be brought to this test to give the local valuations the desired equality. An official threefold

property valuation is found therefore in Michigan; namely, that of the so-called "actual" property values, that from the local tax officials termed "assessed valuation", and the "equalized" valuations from the boards of equalization,—proof enough, plainly, that the ideal of actual property values is an ideal only, and is seldom attained in practice.

The work of these boards shows merit through the fact that their valuations grew steadily more and more as time went by, thus agreeing with the natural growth in property values of the state itself. But, on the other hand, their work was plainly rebuked, when the first mandatory tax commission (1899) showed that all of their valuations were far short of actual property values everywhere. Indeed, as will be shown below, the need for a commission of this sort was caused largely by the failure of the corrective boards to succeed in their efforts.

The peak of the assessment corrective measures in Michigan was reached in 1899, when this tax board of the "strong" or mandatory type was formed, the leading duty of which was "to have and exercise general supervision over the supervisors and other assessing officers of this state, to the end that all properties of the state liable to assessment for taxation shall be placed upon the assessment rolls at their cash value". The commission was made up of three members, giving all their time to their duties, and was vested with the usual legal powers of such bodies in respect to witnesses and subpoena business books, papers, documents, and accounts.

But the highest duty of the commission, its key duty in fact, is told of as follows: "After the various assessment rolls required to be made under this act" (township and city rolls) "shall have been passed upon by the several boards of review and prior to the time fixed for equalization and apportionment of state and county taxes, the said several assessment rolls shall be subject to inspection by said Board of State Tax Commissioners or by any member thereof, and in case said Board or member thereof who shall act in said review, shall determine that the assessments to be reviewed are not assessed according

to law, he or they shall place opposite said property the true and lawful assessment of the same." A column for the commission's valuation of property was added to the local tax roll, and its totals were the final ones; at bottom, therefore, the commission was given the last word in respect to every detail in handling the property tax, and truly may be called a commission of the "strong" type.

The new commission used its powers in the most vigorous fashion. Within a few months, through its control of tax rolls, the state's taxable property was added to by some \$349,260,941. Its members were hectically active in their new duties, and moved tirelessly from one part of the state to another, calling meetings of tax officers, reviewing tax rolls, hearing complaints from taxpayers, and removing tax officials by help from the Governor. No criticism is more severe upon Michigan's lax tax methods of previous years than the one found here; namely, that within a nine-month period, a thirty-five per cent tax roll increase could be made without serious complaint from taxpayers.

The board was given at once the duties also of public utilities assessing board, and still later its members were made a state board of equalization majority, and its control of the general property tax was complete. The board has made during its history several state-wide "reviews" of the local property assessments, and hardly a year goes by without the "review" of some county or city. And, at all times, it has helped local property holders and local tax officials in solving specific tax problems. Doubtless, in the recent years of heavy public burdens upon property, the working of the property tax would have been difficult in the extreme without this help.

Tax Collection Methods, and Problems.—The collection of taxes in Michigan and their transfer to the various dependent governments have had little notice in this state from tax reform agitations, or from either special or regular tax commissions. Tax collection is looked upon, seemingly, as a clerical activity, one properly left for the police to do, although plainly, all that

goes before in tax work is of no avail unless the tax itself is collected. In this state, no phase of taxation has called for so many laws nor aroused so much litigation as has tax collection. It was the failure in tax collection which broke down the Michigan property tax in 1932, and in general the task has been so hard, that Governor Jerome's declaration in 1879, that "the only alternative to state bankruptcy is the proper solution of this problem of collecting delinquent taxes," has been not infrequently a true description of the state's situation.

The collection process, broadly speaking, has followed the same methods at all times in the state's history. The township, village, and city treasurers have collected the taxes within the units they serve, and tax receipts each year, so collected, are returned to the various governments fed from the property tax in accordance with the amounts assessed for each of them. Formerly, only the surpluses over what was needed by the local units went to the state, but in 1882 the present plan was adopted. The state government not only accepted the role of residual claimant to tax roll proceeds in the early day, but further than this made up the losses from unpaid taxes to the local divisions, taking in return therefor the sole rights to the delinquent property. The State Auditor has been always the final collector of the property tax since the handling of delinquent tax lands is still the duty of this official.

The well known maxim "taxes should be levied at times most convenient for the payer to pay" has been met in Michigan by fixing the first month of winter as collection time. The farmer's harvest receipts have come in by this date, and money is freer then than at other seasons, though in cities August has been set as the time for paying urban taxes, crop receipts making little difference here. Taxes are forced payments, and the record of a series of enforcement steps now follows, each planned to give effect to this "force", or in short to put "teeth" in the tax laws. In Michigan, the rule always has been that an unpaid tax is a lien against property, and becomes "delinquent" some six weeks after the final date of voluntary payment has

gone by. The second stage of tax collection is now reached, that where active force may be used in getting payments, and in Michigan's pre-state period this force included prisons, as among the penalties for the delinquency.

The second stage has been as short legally as eight months in early Michigan history though now 1933 grown to twenty-six months, and is a period given up to local uses of force such as penalties, seizures, and lawsuits, and to the preparation of delinquent lands through court action for final sale by the state. Unpaid taxes on personalty are proceeded against also at this time, though this is the final stage for such taxes. Lands with unpaid taxes, however, are now turned over to the state by due process, and are sold at public auction by this authority for as much at least as will equal the charges against them. Failing to receive this sum, the state bids in the delinquent properties, and they are henceforth known as State Tax Lands and in former days great efforts were made by public or by special sales to dispose of these holdings to private buyers. A redemption period of one year, making the third stage, follows these public sales during which the former owner may re-possess himself of his land by paying all charges. Some two years longer, making the final stage, are now allowed, after which the land is finally deeded to the buyer or to the state. In case of this latter result, the arable lands are held for disposal by the state as Tax Homestead Lands while the remainder is taken over for public ownership by the state and are known as Tax Homestead Reserved or "Reverted" lands. Plainly, much regard is shown in this long process to the first owner's rights, and no one may complain that his property has been wrested from him by ruthless tax collectors. Further, it may be said, the annual sales of land by the state have repaid amply its losses through delinquent taxes, and sales are usually a successful method of collecting these imposts.

Tax delinquency in Michigan, which has caused these forceful methods to appear, has had to do almost wholly with land, since unpaid personalty taxes are liable to the usually quick

action of levy and distress laws, and are, therefore, more promptly paid. Lands themselves are further separated from each other by a wide interval, into two different classes in respect to delinquency. This is true because lands resided upon by farmers, householders, and others are easily taxed, since personalty is held for land taxes also and is at hand in the local unit, and may be seized when the land owner is resident. The lands of non-resident holders on the other hand made up in early state history of the sites of embryo city and village promotions owned by land speculators, and later made up of northern cut-over lands owned by "timber barons" formed a second class. These plainly are beyond the local tax official's sphere so far as tax collections from personalty are concerned, and lands of this sort have provided a large share of the un-taxable lands at all times. So numerous was this class that until the late eighties, the official tax rolls put in separate columns the names of the resident landowners and the names of the non-resident landowners, since this facilitated the different treatments that later were given each. The non-residents at all times have made an especial problem in local finance since their absence has allowed heavy tax burdens to be shifted upon their property, while their neglect of tax payments has been the despair of local tax collectors and of state sales agents alike.

Michigan tax delinquency is an economic result and not a moral one, the peculiar nature of the state's settlement and of its natural resources being the main reasons for the great tax evasions. Michigan's settlement, once started, was of the rapid growth type, since more than five and a half million acres of land, a sixth of the state's whole area, the land office records show, were sold during the two years 1835 and 1836, and this wholly for rural and for urban purposes. Nothing can be less doubtful, this being the period of the nation's great land speculation movement, than the fact that at this time large areas of Michigan lands were bought for speculative purposes, thus bringing in the non-resident land holder of doubtful repute.

The panic of 1837-1843 found much of this land unpaid for, and the state taxes of the day, levied now for the first time, found many land holders readier to desert their lands than to pay taxes upon them, and the first great period of tax delinquency was the outcome.

The exploiting of Michigan's timber resources several decades later again threw vast quantities of land into the unpaid tax class. Nearly half the Lower Peninsula and all the Upper Peninsula lay within America's great pine belt, and lumber firms after the Civil War made such vigorous attacks upon these forests that shortly the state was denuded fully of its wooded wealth. The routine steps in this process, briefly, were as follows: first, company purchases of timber lands at low prices; second, timber removal; third, failure of tax payments on denuded and worthless lands; and fourth, bidding in of lands to the state or to settlers at state tax sales. As early in this process as 1878, Governor Jerome warns the legislature that "two and a quarter million dollars worth of these lands had been thrown back upon the state for unpaid taxes," and serious results were in the making.

The present day widespread tax delinquencies of these same lands show plainly the difficulties of getting revenues therefrom, and these may be briefly described. The World War tide of farm success as a prime cause brought much of this normally sub-marginal land into the hands of private owners and under the plow, but the post-war farm distress fell harder upon these doubtful acres than upon the better lands, they being less able to bear distress, and a tax-short area resulted, greater even than was true of earlier periods. The so-called Michigan "idle lands" came largely from this farm breakdown and this tax delinquency, and the unpaid taxes upon these lands were unpaid because mainly the lands themselves gave no profit. It was left for the great 1929 business depression to dim all previous Michigan unpaid tax records both upon "idle lands" and used lands, upon urban lands and rural lands, since, in brief, tax delinquency became the rule at this time instead of

the exception as was formerly the case. In 1932, the State Auditor's report, for example, listed for unpaid taxes in 1931 some 15,440,720 of unpaid tax acres, and 1,598,987 of delinquent lots, with valuations for both of \$2,484,659,004, or a third of the state's entire property valuation, and the 1932 records, further, were worse in all these details. So bad was the delinquent tax situation at this time that the lawmakers on this latter date legalized a moratorium for such taxes, extending over a ten year period, with back taxes payable by installments.

Two plans, the country over, rival each other in dealing with unpaid land taxes, that of the "state" plan for handling these misfortunes, and that of the "county" plan. Michigan is a partisan of the first plan, though in 1842 for two years and again in 1891 for the same length of time the county plan was employed, and loud and fierce disputes have raged in Michigan over the merits of these rival methods. The state senate committee of finance in 1840 and again in 1841 reported the state plan as the favored system, but a similar committee in 1842 reported the county plan as the more worthy one. In 1871, a special senate committee condemned the "county plan," and several later legislatures voted down its renewal, but as late as 1922, however, a Michigan special tax commission urged strongly the county plan's merits, and its suitability for immediate use. Finally, the separation of the sources of revenue for state and for local purposes caused by the tax rate limitation in 1932 has brought again the matter into the foreground. The state seeking its revenues now from the sales tax rather than from property may lose interest in the collection of delinquent property taxes for the local units alone, and the county plan may again be re-adopted.

The claims for and against the two plans have been the same at all periods. For the "state system", it is urged "the non-resident with back taxes pays quicker at one central place than to many local places," and "the state carries the delinquent lands better than the locality, and can sell them to better advantage in the end and give a better title for them." Further

than this, the state may follow a more uniform policy both in respect to taxes and also to lands than is true of the county with all the benefits that result from a uniform policy. On the other hand, the claim is made that the "county system" moves the local tax officials to greater zeal in tax collections, when the unpaid taxes must be borne by the home unit alone than is the case when the state takes up the slack in tax shortages. Also, greater economy is shown under the county plan since costly transfers of unpaid tax records to the Auditor General's office are avoided, and errors are corrected more easily at home than elsewhere. The directive force of an "early start" shows clearly in the growth of a state's fiscal system, and doubt may be felt in view of the strong present trend toward centralized state service that any move seeking to take tax delinquency handling from the central authority will have much success.

Michigan's delinquent land sales history is divided into two parts, that of the period before 1882 and that which follows. As said before, the state is the final property tax collector for all units of government, and every year has seen state auction sales of land for the collection of unpaid taxes, and a lively private business goes on at all times with the proper officials for the purchase of these tax tainted lands. Plainly, the compulsion to pay taxes, for everyone, rests on the certainty that lands will be sold if tax delinquent, and this compulsion is vitalized by the steady sales of land that go on. Further than this, much of the state revenues come from this sale of lands, so that in two ways at least land sales are helpful to the tax system. The first half century of state finance, however, saw a poor market for tax-lands, since tax-land buyers, during this period, must defend their titles by law suits against the first owners, a costly process, and often a complete loss. Unsold tax-lands piled up on the state during this period as a result, and clearance sales in which lands went for what they would bring were resorted to. Some land owners now neglected tax-paying for years at a time, knowing that at a clearance sale

at last, a small sum would buy back their property with a clean title.

The enormous returns of unpaid taxes to the state as the result of timber land delinquencies in the seventies brought the whole matter to a head, and a special tax commission at a special legislative session in 1882, had a law adopted with which to cure collection weaknesses. Under this law, the state secured a "court judgment" on each land title before it was offered for sale, and thus the question of land title being settled a much better market for these entities was provided. Good titles offered in this way have found a ready market since 1882, and looseness in taxpaying has been checked to some extent through the certainty that delinquent lands may be sold for unpaid taxes. The great depression has offered a variation upon this fact, however, since here has been a period without a market for lands of any sort, and the usual penalties have been without force, and even the tax stay laws and other reliefs from the lawmakers of 1931-1932 gave no relief since tax penalties already by virtue of conditions were ineffectual.

ESPECIAL PROPERTIES ASSESSED UNDER THE GENERAL PROPERTY TAX

Banks and mines are the two notable properties of the state, which, while taxed by the general property tax, yet on the other hand, have so many unusual tax features as to deserve especial description. Both, for example, were levied on for many years with specific taxes, and both were brought under the general property tax as soon as suitable valuation methods were found. The tax on banks will be taken up first.

Michigan, as a new state, began at once a happy ride to prosperity through the means of banks. The nation at large was given up to a bank hysteria at this time (1836-40) for banks of the note issue type. Michigan's land boom was at its height in the 1834-36 period, and the many daily transfers of realty made a large money demand which the customs of the times decreed must come from banks. The profits from bank money

issues were so large in fact that sixty or more banks were chartered by the new state in its first year, and these were added to the dozen or more which came down from territorial times. All of these banks were of the note-issuing type, and few were the safeguards which hindered the flow of paper over their counters. Chartered banks such as these, might issue money to the extent of three times their capital stock, and for the little Michigan community of 200,000 souls small were the dangers of a money famine with so much freedom to nearly four score of banks.

The risky nature of banking and its many business threats, however, prompted the new state early in its first year to enact the "safety fund" banking law hoping thereby to give security to these doubtful agencies. The safety fund device had been widely used in eastern states with enough success to give the plan much fame, and therefore its Michigan adoption. Briefly stated, this plan required the payment of periodic dues to the State Auditor from the system's banks, as a safety fund for the use of creditors in the event of a bank failure. A second, and most valuable feature of the law, was the provision for a State Bank Commissioner who should supervise banks as to their business methods, and secure the enforcement of the law against them when needed. The advance in bank methods marked by this second detail appears plainly through the fact, that a half century later this office, which had lapsed with the downfall of safety fund banks, was again set up as a leading feature of a new banking law.

The new state lacked, however, a technique for properly handling banks, and shortly came to the acceptance of "free" bank competition as the best bank control mechanism which was then available. The so-called "free banking" system, therefore, was adopted in March of 1837. By this law, provision was made that any five persons upon making request to county officials, might be allowed to organize a bank of the usual type. Rules for the new system required, first, that a special reserve should be kept by each bank with the state

treasurer for note backing purposes; second, this should consist of mortgages or personal notes with a value of one-fifth the value of the bank notes issued, the whole constituting a special reserve device not unlike the national bank plan of a later day; and, third, only paid-up bank stock should be counted, and the safety fund and bank commissioner details of the earlier law were to be observed.

Specie payments by banks were suspended by law shortly after the new system went into effect, and this vital bank duty relaxed, free banks at once multiplied apace. Who wouldn't operate a bank, when no real money need be paid to bank creditors? The State Bank Commissioner's report for 1837 asserts that no less than forty-eight new banks, with a nominal capital of \$3,915,000, and note issues of \$4,362,500, had come into being at once, and forty of these were in actual operation. The fact that many more were not begun immediately was due doubtless to this official's vigorous use of injunctions against doubtful banks,—a weapon used by him from the first day of the new system. By 1840, most of the Michigan banks,—“chartered” and “free” alike—had yielded to the commissioner's severity and to the business depression, and were insolvent and out of existence. Indeed, by 1842 only a half dozen banks remained,—a number not added to for many years to come. In fact, so much feeling against banks was shown in the 1850 constitutional convention, that a provision was adopted which forbade the enactment of any new Michigan banking law until a referendum from the people gave approval. Finally, in 1857 a majority of votes were secured for a new law, and state banks were again lawful in Michigan.

The National Banking Act of 1863, by its tax upon state bank note issues and by its genuine merits as a bank plan, caused the Michigan state banks to transform themselves into banks of this new system and these banks alone for many years thereafter save for one state bank, covered the field. The state banking law of 1857 seems never to have been popular,—not more than a score of banks accepting its provisions during

thirty years of life—and in 1888, a well-devised state banking law was enacted. The many Michigan state banks of the present day are due to the merits of this law. Nearly six hundred banks had charters under its provisions in 1930, and the further addition of 126 National banks made up the state's quota of these credit agencies prior to the great business depression.

A pursuit showing such plain signs of prosperity, as did the 1836-37 banking business, revealed ability to pay taxes, and before the first year's end was reached, therefore, a specific tax of one-half per cent upon bank capital stock was imposed. The law seems to have been applied badly, however, since bank tax receipts never exceeded a few hundred dollars per year, while bank capital stock at one time was in excess of forty thousand shares and many millions of dollars. In 1845, a severe law was enacted with heavy penalties upon banks for tax evasion, and the privilege of bank taxation also was granted to local units, where the banks were situated. A feature of the present bank tax law was begun here, namely, that of levying taxes upon bank real estate as upon other property. The new tax also gave little revenue, since by 1845 banks themselves had dwindled to a mere remnant.

The change from state banks to national ones during the Civil War, however, proved ruinous to bank tax receipts of all sorts. This was true because the new federal bank law forbade the taxing of national bank shares by states, though this could hardly have been done anyway owing to the well known comity between our higher governments that neither shall tax the agencies of the other. The taxation of share values to bank share holders as personalty, however, was not forbidden, and this became the practice in the new Michigan bank tax of 1867.

The new tax law preserved the practice of separating bank realty from other bank property for taxing purposes, and dealt with bank realty as other local realty is dealt with everywhere. The bank capital stock shares at market value, less the value of the realty, was taxed to the stockholders as personalty

though payable at the bank. The general property tax principle in this new law emerges plainly, through the plan further followed, of using the same rate upon share holders and upon bank realty that was used upon other local property in the bank vicinity. The "stoppage at the source," expedient practiced under this law, through allowing banks to pay stock share taxes in the first instance, and then deduct the same from shareholder dividends, made bank stock almost the sole intangible that was fully taxed. Tax situs traditions were much confused, however, by this plan, since the usual rule that stocks and bonds are taxed at the owner's situs was given up, and bank shares paid taxes at the bank's situs,—a change in method which may be justified by the claims of convenience.

Tax handling difficulties were removed only in part, however, by this stoppage at the source method which the law provided. The evaluation of the shares as personalty must still be done, and the problem of finding market values for stock shares, seldom listed on the stock markets, proved baffling to the ordinary tax man. In practice, this problem was left by the assessors for the banks to perform, and the bank tax therefore became like several others, simply a tax of the self-assessment sort. Early in the history of the State Tax Commission, however, this evil was seen, and help from this new body was sought and received in an endeavor to effect a cure. The help given was that of providing assessing officers each year, with valuations of bank stock shares, made by experts, and this useful service helps to make the bank tax workable by local officers everywhere.

Copper and Iron Mine Taxation. The Upper Peninsula of Michigan forms a part of the Lake Superior iron region, and for several years the yields of the Marquette, the Menominee, and the Gogebic ore ranges gave the state first place among the country's iron mining areas. The copper mines of the Keeweenaw Point are even more famous, since these were among the world's richest copper deposits, and in the past have been the chief sources of the American supply of this metal. The work-

ing of these mineral deposits began in the early days of the peninsular state, the mining of copper having been started in 1846, and the first iron mine having been opened in 1849.

Copper mining was at first limited to the veins of mass or pure copper ore, found often in the copper country, but, shortly after the Civil War, copper belts or stamp rock deposits came into notice, and these have proven much richer mineral resources than were the pure copper deposits. The copper region is a hilly area some 150 miles long and eleven wide, and has been a field of intense rivalry for scores of mining companies. Some of these, like the Atlantic, the Baltic, the Quincy, the Tamarack, and the Calumet and Hecla have been dividend paying mines for many decades, though lately, the rivalries of new copper mines in the far west have lowered their earning power. The copper industry in Michigan has had a steady, normal growth, both in regard to the mining and to the refining of ores, and has enjoyed also a growing market since new copper uses are steadily found. The Michigan mines are well located too from the marketing viewpoint, being near the great centers of copper uses, and having both rail and water means of transport.

The state's iron mines are found within three great ranges, named in the order of their discovery; the Marquette, the Menominee, and the Gogebic, and are among the richest groups of the country. The total yield of these mines as early as 1910 had gone beyond two hundred million tons and the estimated amount of unmined ore is greatly in excess of this amount. The ore from all of these groups is of high quality, is well adapted to the Bessemer smelting process, and is fairly easily mined and shipped. The Marquette range, opened in 1848, is noted for its stability of yield; the Menominee, opened in 1877, for its ease of access; and the Gogebic, opened in 1885, for the richness of its output,—the Norris mines in this latter group being looked upon at one time as the richest iron ore deposit ever found. Typical mines within the other groups are the Cleveland Cliffs and the Lake Superior in the

Marquette range, and the Chapin and the Pewabic in the Menominee group.

Many scores of companies have been formed from time to time to develop and operate these mines, but, unlike the copper region ownership type, control here by many different companies seeming to be the rule, a strong trend toward monopoly is found in the iron mining areas. Large companies like the Oliver Iron Mining Company,—the mining branch of the U. S. Steel Company,—and like the Lake Superior Iron Company are the holders of the best mines, since iron mining, and at least the transport of ore, thrives best on the economies of large business. The state takes high rank also in the yield of two other minerals, namely salt and coal. The first of these always has been subject to the property tax, the same as other property, and the second, while subject to the mine tax like copper and iron, has only lately become productive enough to attract attention and therefore the tax history of neither is suggestive.

In marked contrast to the lengthy Michigan mining records of copper and iron mines, are the tax records of these properties. At once upon the discovery of the first mines in 1846, the state claimed sovereignty over minerals within its borders, and set up an *ad valorem* four per cent tax upon these products. But a heavy ore tax of this sort is not readily paid, and soon repealed,—the only mine tax thereafter for several years being that found in the special charters of the companies by which the mines were owned. Companies of this sort were formed in large numbers prior to their prohibition in the 1850 constitution, and the mine tax imposed upon each was the levy of one-half per cent upon their securities. This tax upon capital shares seems to have been the usual one, indeed, levied upon special charter business companies of all sorts, and the same tax is repeated in the first general mining tax law, adopted in 1851.

This tax had the active dislike of all mine operators, since it seemed to penalize the discovery and opening of mines by levying upon mine capital, rather than upon the real measure

of ability to pay, namely, mine production. A new law was adopted therefore in 1853, and the tax provisions were entirely changed. "Every corporation", so the new law states, "engaged in copper mining, shall pay a tax of one dollar for each ton of copper or mineral obtained; every corporation engaged in iron mining shall pay a tax of ten cents for each ton of iron obtained, and every corporation engaged in coal mining shall pay a tax of one-half cent for each ton of coal obtained by such corporation in such mining business." The principle of this new tax may not have been in fact more just than that of the others, but the tax itself was not apt to prove a hardship through being of excessive size.

A specific tax on tonnage like this though varied from time to time with regard to rate, usually downward, stood for almost forty years, and paid a small but very certain tribute to the state treasury, failing in no year to make returns, though the amount the first year was only \$1,264. This sum had grown by 1892, when the last specific tax payment was made, to some \$107,410, and was light indeed in view of the growing yields from the mines which had taken place. The handling of the tax was the state auditor's duty during its early history, but in 1878 the state mineral statistician was asked to notify the state treasurer annually of the amounts due from each company, and the care of the tax was thus shifted to this new official. A large part of the tax, further, at all times was returned to the mining regions from whence it came for the support of local units, since the claim was proven that little else of taxability was found there save mines.

The "equal taxation" partisans for the general property tax in the nineties found this mine tax culpable, and brought about its repeal. By a law of June 16, 1891, the provision was made that, "Hereafter all the property real and personal, of all corporations, joint stock companies and persons, artificial or natural, however organized or named, who are engaged in the business of mining, smelting or refining ores in the state, shall be taxed for state and other purposes under the general provi-

sions relating to the assessment and taxation of property. Under the general property tax, however, the evident difficulties in valuing mines for tax purposes proved troublesome at first, since no one knew mine values at that time save mine experts, and these were apt to be lenient with such property. Tasks of this sort were overcome finally, when in 1911 the state caused an expert valuation of mine values to be made which has been a model for annual surveys of this sort ever since. The copper mines were less of a value problem than the iron mines in all respects, since the listing of copper securities upon the stock market gave some notion as to the worth of these properties, and therefore what they should be assessed for. But for the iron mines, on the other hand, the State Tax Commission began this year (1911) the practice of annually reviewing with the help of the State geologist the assessments of these mines, and thus was added to the work of this body another duty of great worth. In the tax delinquency debacle of the recent business depression period, it is interesting to note that the state's copper county, Keewenaw, ranked highest among the counties of the state in escaping this misfortune.

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Since 1933 a whole new branch of the subject has been opened up by national and state legislation but space does not permit discussion of this field in the present article.—Ed.

MICHIGAN'S COMMERCIAL FISHERIES OF THE GREAT LAKES

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THE abundant natural supply of fish in the waters of the Great Lakes in past years has played so important a part in the settlement and development of the state of Michigan that any history of the state or of its people that omitted reference to these fish and the fisheries would be incomplete. The excellent accounts of the early explorations and settlements of the state make frequent allusions to the bountiful supply of fish in the Great Lakes, to their excellent quality, and to their great importance in the life of the native, the settler, and the trader.

From the earliest settlements to about 1830, when the population of Michigan was about 28,000, commercial fishing was confined almost exclusively to the Indians and to the employees of the Hudson Bay and the American and Northwest Fur companies (Bissell, 1887). Fish taken by others were used mainly for home consumption. These early Michigan fisheries were prosecuted chiefly on the Detroit, the St. Clair, and the St. Marys rivers, the Straits of Mackinac, the extreme southeastern end of Lake Superior, and Saginaw Bay. The whitefish was the principal species of trade, although lake trout, yellow pike-perch, and herring were sold also. The common methods of fishing at that time were with spear and with hook and line, although dip nets and seines were used to some extent.

It would seem to be virtually impossible to mark exactly the beginning of the development of commercial fishing on each of the Great Lakes in Michigan since it must have been difficult to differentiate sharply between the professional and non-professional fisherman during the early transition period when seining was the chief method employed in the fisheries.

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Nevertheless, various authors give definite dates of the introduction of commercial fishing by professionals on some of the lakes. On Lake Huron proper it is said to have occurred in 1835, when gill nets were introduced at Alpena, Michigan. On Lake Michigan the industry started earlier than on Lake Huron, probably at the time of the first settlements. Little is known of the fishing industry of Lake Superior prior to 1833 except that the fishery was already at that time a principal source of profit to those engaged in trade on this lake. On Lake Erie commercial fishing by professionals is said to have begun as early as 1815 with the introduction of seines in Maumee Bay, Ohio, but it is not known when it was started in the Michigan waters of this lake. The industry must have had its beginning earlier than this on the St. Clair River for it is reported that seines were employed by commercial fishermen in 1812 on the present site of Marine City. Seines were introduced by professional fishermen on the Detroit River sometime before 1830 at the present site of Ecorse.

Complete statistics for Michigan's early fisheries are unavailable. The first published records of the catch appeared in Blois' *Gazetteer of Michigan* for the year 1838, and though they exclude part of the catch of the Upper Peninsula they no doubt give some idea of the yield of that period. The statistics are given in the table below:

Year	Barrels	Approximate number of pounds of fresh fish*	Value
1830	8,000	1,920,000	\$ 40,000
1836	11,400	2,736,000	\$115,482
1837	13,500	3,240,000	\$124,470

*Barrels converted to pounds on the basis of 240 pounds of fresh fish per barrel.

The catch of these years comprised chiefly whitefish, lake trout, and yellow pike-perch although some lake herring were included also. The yellow pike-perch were produced mainly on Saginaw Bay and on the St. Clair River, while the whitefish came chiefly from the Detroit River. The next published records refer to the years 1840 and 1854. It has been estimated that in 1840 some 35,000 barrels (about 8,400,000 pounds) of fish were packed in the State and in 1854 some 100,000 barrels (about 24,000,000 pounds). Only incomplete returns are available for 1859, the next year reported on, and these suggest a total production of more than 18,000,000 pounds valued at more than \$650,000. Returns published for the years 1860, 1863, and 1870 seem too incomplete to give even approximate values of catch but in 1873 Michigan is said to have produced 114,669 barrels or approximately 28,000,000 pounds of fresh fish. This figure of production takes on added significance when it is pointed out that it equals the catch of the present day with its modern outlay of equipment. The early records give no data on the amount of gear, and the number of boats and men employed, except for the year 1859 when statistics are given on the number of gill nets and boats used on the east shore of Lake Michigan. The first complete, detailed statistical data on all phases of the fisheries are given for the year 1879. These were collected by the federal government and mark the beginning of a long series of statistical studies on the Great Lakes fisheries.

FISHING METHODS AND FISHING GEAR.

Gill-net fishing. Gill nets are said to have been used by the Indians on the upper lakes as early as 1781 but this type of gear apparently did not come into common use until after 1830. In fishing with the early types of gill nets, which were all made by hand, stones were attached to the bottom line of the net to sink the twine, while boards about $2\frac{1}{2}$ feet square or wooden strips 6 to 10 or more inches long, tied or pinched on to the upper line in the manner of clothes pins, served as

floats to hold the nets erect in the water. Later lead weights replaced the stones, and cedar (more recently aluminum) floats replaced the wooden strips.

The gill net employed by the commercial fishermen of the Great Lakes today consists of two heavy cotton lines—the cork and lead lines—and the linen or cotton netting. The cork line bears aluminum or wooden floats, about $1\frac{3}{4}$ inches thick and 5 inches long, while the lead line commonly bears 6-ounce leads, about $\frac{3}{4}$ inch thick and $2\frac{7}{8}$ inches long, both floats and leads being attached at intervals of 6 to 12 feet, according to the option of the fishermen. The netting is seamed to these lines in such manner as to leave the mesh openings more or less diamond-shaped when the net is in fishing position. Gill nets vary in depth from $4\frac{1}{2}$ to 9 feet and in length from 250 feet on Lake Erie to as high as 800 feet on the other lakes. These nets are handled in boxes, 3 to 8 nets or about 1800 to 2400 feet in a box, the quantity varying somewhat with the lakes. In use gill nets are united, end to end, to form gangs, one of which may reach 4 to 8 miles in length. Gill nets are usually set on the bottom where they stand upright like a tennis net, although at times and in certain localities they are floated, and may be set in depths up to 600 feet. The pressure of the water at greater depths flattens too many floats. These nets are fished on the basis that the fish do not see or detect the fine twine until too late, and therefore run headlong into the meshes and are caught, as a rule, behind the head or gill covers—hence the term “gill net”. A gang of gill nets is lifted at intervals of one to three days on Lake Erie varying with the seasons and of four to nine days on the other Great Lakes where the water is deeper and colder. Gill nets can be fished throughout the year, if ice conditions permit. The fish are often dead when taken from the nets.

Three types of gill nets are used in the Michigan waters of the Great Lakes. (1) Large-meshed gill nets of $4\frac{1}{2}$ to 5-inch stretched mesh are employed for whitefish, trout, and yellow pike-perch, although a 7 or 8-inch mesh may be used on the

spawning grounds of the first two species. (2) Small-meshed gill nets of $2\frac{1}{4}$ to $2\frac{3}{4}$ -inch mesh are used for herring, chubs, perch, menominees, and other rough fish. (3) Bait nets of $1\frac{1}{2}$ to 2-inch mesh are used to catch bait for trout hooks.

In setting a gang of gill nets a buoy, to which is attached a line somewhat longer than the depth of the water, is thrown overboard. A few rods from the lower end of this line an anchor is fastened, and the end of the line is made fast to the joined lead and cork lines of one end of the gang. The anchor is then thrown overboard and the nets, packed in boxes, paid out from the stern of the slowly moving boat. The nets are packed in boxes in such manner that all the leads are piled in rows in one end of the box and the floats in the other. One man throws out the leads, another the floats as the moving boat pulls out the net. When the other end of the gang is reached a second rope and anchor are attached to it. This anchor is thrown overboard, the rope is paid out, the nets sink and stand upright on the bottom of the lake, and a second buoy is made fast to the line and thrown overboard. To the bowl of each buoy is attached a pole, about 6 to 8 feet long, to the upper end of which is tacked a canvas flag. The flag and pole serve the fisherman in locating his nets. In lifting a gang of gill nets the buoy is taken aboard and detached, the line is hauled in by the automatic lifter and the anchor detached, and the nets, the cork and lead lines of which come together in the process of lifting, are hauled in over the roller of the gill-net lifter. The boat is so operated that the nets are pulled up in a vertical position.

The automatic gill-net lifter is an ingenious piece of apparatus which has been in use since about 1900. Until about 1891 gill nets were lifted by hand over a roller. Subsequently steamers were equipped with a lifter whereby nets were carried over a drum or cylinder worked by steam. This device enabled the crews to handle a larger number of nets than could be operated by hand and therefore played an important part in maintaining the annual yield of the dwindling fisheries. The

present day lifter consists of a revolving drum bearing along its circumference two rows of teeth which interlock or bite together and separate again as the drum revolves. The cork and lead lines of the gill net pass over a roller and are caught by several interlocking teeth of the drum and carried along about half a revolution when each pair of teeth separates and releases the lines. As each pair of teeth releases the lines another pair simultaneously closes over a new stretch of incoming lines and in this manner the nets are hauled aboard. A semi-circular, sheet metal tray on the right side of the drum permits both netting and fish to slide around the drum without damage or injury. Two or three men tend the nets as they are delivered by the lifter; one arranges the nets in the net box, the others remove or clear the fish from the netting with picking hooks and throw the fish into "lake boxes" keeping each kind of fish separate. The speed of revolution of the drum can be controlled and the nets lifted according to requirements.

Steam tugs that average somewhat less than 65 feet in length and gasoline or oil burning tugs that average 40 to 50 feet in length are used to operate gill nets. These boats, as a rule, are almost entirely inclosed, a characteristic feature being the turtle deck in the bow over which the waves break readily. Some of the larger tugs have a cruising radius of more than 100 miles and carry a crew of six or seven men although as a rule a boat crew does not exceed five men. The introduction of steamers and motor boats in fishing marked a major development in the history of the fisheries. Steamers had been employed for many years in collecting and transporting fish before they were utilized in actual fishing operations. The first fishing steamer was built on Mackinac Island in 1860. However, the steamer was not employed in the fisheries in other sections of Lake Huron until 1875. The dates of introduction in the other lakes are as follows: Lake Michigan, 1869; Lake Superior, 1871; Lake Erie, 1876. The motor boat was apparently introduced into the fisheries in 1899 at Marquette, Michigan, on Lake Superior, where, it is said, the firm of Peter Anderson and

Sons first fitted a sailboat with a 12 horsepower naphtha engine as an auxiliary means of power. To indicate the effect of this innovation upon the fisheries it may be pointed out that after the installation of the naphtha engine the number of nets fished by the sailboat was more than doubled.

Pound-net fishing. The pound net was introduced into this country from Scotland in about 1836 and fished in Lake Ontario. In 1850 it was introduced into Lake Erie at Sandusky, Ohio (in the Michigan waters of Lake Erie in 1857 off Monroe), and from there distributed to the other lakes. This type of net was first set in Lake Huron in 1854 off Alcona county and by 1860 was found in all the principal fishing centers of the lake as far north as the Straits. It was introduced in Lake Michigan in 1856 or 1857 in the vicinity of Naubinway and reached Menominee in Green Bay in 1858 and Beaver Island in 1859. Pound nets were first used in Lake Superior in 1864 in Whitefish Bay. With the general use of pound nets shortly after the Civil War, production rose at a rapid rate and, it is said, the era of the general decline of the Great Lakes fisheries was ushered in. According to Milner (1874, page 16) the beginning of a marked decrease in the catch was first noticed by the fishermen shortly after 1862.

The pound net, constructed of heavy cotton netting, is one of several types of impounding nets commonly employed by the commercial fishermen of the Great Lakes and consists of four parts—lead, heart, tunnel, and pot or crib. All of the webbing of this net, except that of the tunnel, extends from near the bottom of the lake to about 2 feet or so above the surface of the water. The webbing is held erect by attachment to long stakes or poles driven from 8 to 10 feet into soft bottom. This type of net cannot be fished in depths greater than 80 or 90 feet since longer stakes are unobtainable, and must be set on soft bottoms where stakes can be driven. The lead, which is simply a fence of netting usually beginning in the shallower water, obstructs the passage of fish that swim along shore, and ultimately diverts these fish into the pot

through the heart and tunnel. The lead may be 50 to 80 rods long. The crib, inclosed at the bottom and sides and like the heart open at the top (the heart is also open at the bottom), varies in size usually from 20 to 40 feet square, its depth varying with the depth of water in which the crib is set. The size of the meshes in various parts of the pound net is regulated by law. For taking whitefish and lake trout the following minimum sizes are prescribed by Michigan: $4\frac{1}{2}$ inches, stretched measure, in the lifting pot, heart, and tunnel and 5 inches in the lead. For other species the meshes may not exceed $3\frac{1}{2}$ inches in the lifting pot and in that part of the tunnel extending into the pot, nor may they be less than $3\frac{1}{2}$ inches in that part of the tunnel outside of the pot, in the heart, and in the lead. For the smaller species (herring, perch, etc.) a 2-inch mesh is generally used in the pot and for the yellow pike-perch a 3 or $3\frac{1}{2}$ -inch mesh is most favored by the fishermen. The mesh actually used in the lead varies from 5 to 7 inches. All of the netting is treated with some preservative such as tar or copper oleate. With ordinary usage and careful treatment a pound net may last four years or longer.

Pound nets are set either singly or in strings of usually less than five but sometimes as high as 20 nets, with the lead of one net attached to the back of the adjacent inshore net. These nets are not generally fished during the winter months on account of the ice, but at other seasons they are lifted daily or every two days and the fish are alive when taken. The boats used for tending these nets as well as trap nets are, as a rule, from 30 to 40 feet long, drawing about $2\frac{1}{2}$ feet of water, and are entirely open, although many of them now have small cabins forward to shelter the engine and the crew. These boats have no special equipment except in the case of trap-net boats where a small hand or motor winch is used in lifting the nets. In general three men comprise the crew.

In lifting pound nets the boat or a punt is moved inside the open pot or crib and the twine of the sides and bottom overhauled beginning at the tunnel end and working towards the

back of the pot. During this overhauling the gilled fish are taken out of the meshes while the live fish are driven towards the end of the net where they are finally cornered on the webbing of the back, scooped up with a dip net, and placed in boxes or in compartments in the bottom of the boat.

Trap-net fishing. The trap net, which fishes on the same principle as a pound net and is now the most important type of impounding net on the lakes, was invented about 1875 by fishermen on Lake Ontario who had discovered some good fishing grounds in their territory but found that pound nets could not be set on them due to the stony character of the bottom. To obviate this difficulty they built the movable trap net, which could be entirely submerged and held in place by anchors instead of by stakes. The use of this net, in contrast to the pound net, did not spread rapidly at first to the other lakes. Previous to 1885 the trap net was tried on two occasions on Beaver Island in Lake Michigan but apparently without satisfactory results and in 1885 four nets were fished by gill-net fishermen in Pine and Round lakes, inland lakes of Michigan, but also without success. This net was introduced with greater success in Lake Erie about 1885, in Pennsylvania waters. However, its use was not extended very rapidly even in Lake Erie for in 1894 only a few of these nets were fished along its shore and these were confined to a few of the fishing districts between Cleveland, Ohio, and Buffalo, New York. At this time (1894) trap nets were also found in Anchor Bay in Lake St. Clair but apparently had not yet reached any other Michigan waters. By 1899, however, some forty-three trap nets were fishing the Michigan waters of Lake Erie. At this time they had also been introduced in Saginaw Bay, in Lake Huron off Iosco and Alpena counties, and in the St. Marys River where some thirty-seven were in use, but none had yet reached lakes Michigan and Superior. It is not known when the trap net was introduced in these lakes but it was probably sometime between 1903 and 1908.

The trap net, a modification of the pound net, also consists of a lead, heart, tunnel, and pot or crib. The pot and heart, however, in contrast to the pound net, are entirely inclosed so that the net may be fished completely submerged, hence the term "submarine net." Trap nets are supported and held in position by large floats, leads, and anchors instead of by stakes and are fished in shallow water generally less than 60 feet in depth. There are several variations of the typical shallow-water trap net. There may be two pots or two hearts instead of one and the hearts may be open on top instead of covered. The gobbler net is a miniature shallow-water trap net the pot of which is supported by a series of square frames. The most recent modification is the deep-water trap net. This net was developed on Lake Ontario in 1924 and was introduced into Lake Huron in July, 1928, in Thunder Bay off Alpena, and was designed to take whitefish in deep water. The chief difference between the deep-water and the shallow-water trap net is in the size. The lead of the shallow-water trap net averages about 25 feet or less in depth, that of the deep-water trap net 35 feet; the lifting crib of the former averages about 9 or 10 feet in width and depth and about 13 feet in length, that of the latter averages about 30 feet in depth, 35 feet in length, and 24 feet in width tapering to 20 feet in the back. The maximum depth in which the deep-water trap net can be fished is not known but it has been set in depths up to 160 feet. This net has been so successful in taking whitefish that its use spread rapidly especially in Lake Huron where in 1932, four years after the introduction, more than 500 were employed. Because of its deadly efficiency the deep-water trap net is being legislated rapidly out of existence. At the present time it may be fished lawfully in Michigan waters in Lake Huron only where it may not be set in water of a depth greater than 80 feet.

Fyke nets. The fyke net is also an impounding net. It has no heart, but a lead extends outward from the mouth of the pot between two wings. These wings of variable length, held in position by stakes, converge into a tunnel which is attached

wholly inside the pot. The pot is cylindrical in shape, is supported by a series of hoops, and is held in place by a stake. There may be several compartments in the crib each connected with the other by a tunnel or throat. There are several variations from the typical fyke net. The pot may be supported by a series of square metal frames instead of by hoops. The lead and wings may be missing in which case the net is called a funnel net. The so-called simple drop net has in addition to the lead, wings, and cylindrical pot, an outside tunnel sloping upward and outward from the mouth of the pot to the wings and lead. A more complicated drop net has in addition to the outside tunnel a covered hood and a heart and is similar to a long tunnel trap net except for the cylindrical pot and size.

Hooks. Hooks are commercially important only in the capture of lake trout. In trout fishing each hook is tied to a fine line about 4 feet long called a ganging or snood, and each ganging is fastened at intervals of about 16 feet to a heavy maitre cord or trot line. Some 350 to 400 hooks comprise a box of line, 6 to 8 boxes or some 2400 to 3200 hooks comprise a gang, and this is usually set in one string 7 to 10 miles in length. Small fish called bloaters, about 6 inches long, serve as bait. These bloaters—so called because they bloat from the expansion of gas in the air bladder when brought to the surface—are taken in 1½ or 2-inch mesh gill nets and are preferred by the hook fishermen since it is believed that they will float the hook off the bottom in fishing. Hooks are fished on the bottom as a rule, although at certain times of the year when the trout swim high they are floated by means of air cans. The technique of setting and lifting hooks is very similar to that employed for gill nets, a gill-net lifter being used to bring in the line and hooks.

Seines and dip nets. These types of gear are so well known to the public at the present time that they require no special description here. They, together with the spear and hook and line, comprised the earliest types of gear used in fishing by the Indians, traders, and settlers.

Gear by lakes. Table 1 shows how extensively these various types of gear were used in 1934 on the various Great Lakes in Michigan waters. The largest number of vessels and boats were operated on Lake Michigan, the smallest number on Lake Erie, where no vessels were used in fishing at all. ("Vessels" refer to craft having a capacity of 5 net tons or greater. Smaller craft are called boats.) Seines were most common on lakes Huron and Erie. Only a few gill nets were employed on Lake Erie and more were used on Lake Michigan alone than on all the other lakes combined. Hooks were used extensively on all the lakes except Erie but most abundantly on Lake Superior. Virtually all of the pound nets were employed on lakes Huron and Michigan in almost equal numbers whereas 77% of all the trap nets were found on Lake Huron. Nearly all of the fyke nets occurred on lakes Erie and Huron. On Lake Erie the fyke net and the seine were the dominant types of gear employed; on Lake Huron the trap net and gill net; on Lake Michigan the gill net and trap net; and on Lake Superior the hook and gill net.

TABLE 1.—State of Michigan. Great Lakes Fishing Gear in Numbers, 1934.

Gear	Erie	Huron	Michigan	Superior	Total
Vessels	0	61	135	26	222
Boats	94	427	734	219	1,474
Seines	41	63	0	10	114
Gill nets	52	7,938	22,857	6,776	37,623
Hooks	600	135,600	132,610	219,260	488,070
Pound nets	0	394	437	49	880
Trap nets	121	2,778	601	108	3,608*
Fyke nets	559	339	56	35	989

*About 670 of these were deep-water trap nets.

FISHING DISTRICTS.

The most important fishing centers in Michigan, on Lake Superior, are Ontonagon, Hancock, Gay, Portage Entry, Marquette, Munising, Grand Marais, Whitefish Point, Emerson, and Brimley. There are also a number of fishermen located

on Isle Royale whose fish are transported to and distributed from Duluth, Minnesota. On Lake Michigan the important gill-net operations are carried on at St. Joseph, South Haven, Grand Haven, Ludington, Manistee, Frankfort, Leland, Traverse City (Grand Traverse Bay), Charlevoix, St. James, Manistique, Fairport and Escanaba. Although some pound nets and trap nets are operated along the Michigan shore south of the entrance to Grand Traverse Bay, the majority of these nets are fished in the northern end of the lake from Menominee on Green Bay to Traverse City on Grand Traverse Bay. The principal centers for the operation of impounding nets are Escanaba and the villages located on Big Bay de Noc, Manistique, Brevort, Epoufette, Naubinway, St. James, and Traverse City.

On Lake Huron gill netting is conducted chiefly out of Detour, St. Ignace, Cheboygan, Rogers City, Alpena, Oscoda, and Port Huron. Pound nets and/or trap nets are fished from St. James island in the Drummond Island area, out of St. Ignace in the Straits and around the islands in the northern section of the lake, out of Cheboygan and Rogers City in Hammond Bay, out of Alpena in the Thunder Bay district, out of Oscoda, East Tawas, and Tawas City, in Saginaw Bay chiefly out of Bay City, Sebawaing, Bay Port, and Caseville, out of Harbor Beach (deep-water trap nets only), and out of Port Huron (mostly fyke nets and trap nets). Nearly all of the seines are employed in Saginaw Bay and most of the fyke nets are fished in Saginaw Bay and in the Port Huron area.

No commercial fishing is permitted in Lake St. Clair except with hook lines, not to exceed 100 hooks per gang, set for catfish, bullheads, suckers, and noxious fish only. A limited amount of seining for carp is conducted under the strict supervision of the Department of Conservation. No important fishing centers are located in Michigan on Lake Erie except Monroe since most of the fishing is carried on here with seines and fyke nets which operations, conducted with small boats, do not require large harbors and are therefore scattered all along the

Michigan shore from the city of Wyandotte to the Michigan-Ohio state line.

PRODUCTION.

The most recent statistics available for all states (Mississippi River and tributaries, 1931; Great Lakes, 1934) show that the United States produces approximately 152,000,000 pounds of fresh-water fish per year for commercial purposes. The eight states fronting the Great Lakes produced in 1934 a total catch of some 93,000,000 pounds, or about 62% of the United States yield. Michigan produced some 28,648,600 pounds, or 18.8% of the United States production and 30.8% of the yield of the Great Lakes states. Michigan ranked first among all the states of the Union in the commercial production of fresh-water fish. This, of course, is not entirely unexpected since Michigan is nearly surrounded by the productive waters of four of the five Great Lakes with their connecting waters. Michigan owns a total shore line on these waters of 3,121 miles and possesses jurisdiction over an estimated total area of some 39,960 square miles of water surface or 65.6% out of a total of 60,950 square miles for the entire chain of Great Lakes in the United States. No state has greater water boundary lines in proportion to its land area.

It is of interest to note in this connection that as early as 1883 the claim was made that "Michigan stands *first* among the States of the Union in the product of fresh-water fisheries; and the fisheries of this State rank *fifth* in the value of its *natural products*" (*Fifth Biennial Report*, State Board of Fish Commissioners, State of Michigan, 1883, page 3). In 1859 the total value of the commercial catch for the entire chain of Great Lakes was given as \$900,000. Michigan's share of this yield amounted to \$650,000. It is also of interest to note that already in 1873 Michigan produced as much fish as it does at the present time. In that year some 114,669 barrels, equivalent to about 28,000,000 pounds of fresh fish, were produced, while in 1934 the yield amounted to 28,648,600 pounds. These data

suggest that Michigan probably ranked first in production of fresh-water fish from the earliest times.

To present a compact picture of the development of Michigan's fisheries of the Great Lakes, Table 2 was constructed. This table presents a summary of the chief statistics for the years 1879, 1885, 1908, and 1934. Statistics are also available for many other years but the above mentioned years were selected to show in a brief space the condition of the fisheries at various periods during the past half century. The statistics for the years 1879 and 1885 are the first to furnish complete information concerning Michigan's fisheries for all lakes. These data were collected by the United States Commission of Fish and Fisheries, the predecessor of the United States Bureau of Fisheries.

One outstanding feature may be seen in this table. The total catch of the present time is no larger than it was in the early years under consideration. This is a striking fact in view of the many major developments that have taken place in the fisheries since these early years. These developments, as revealed by Table 2, are the marked increase (1) in the capital invested and (2) in the number of vessels and amount of gear employed, and (3) the introduction of the trap net, a very efficient type of gear now in wide use. In addition, other developments not disclosed by the table took place. Reference should be made to the fact that the early types of vessels, boats, and gear were very crude and inefficient in comparison with the highly refined and efficient types of today. In the early days much of the gear was constructed crudely out of coarse materials and all of it was lifted by hand; at the present time virtually all of it, certain impounding nets and small outfits excepted, is lifted with the aid of machinery or some mechanical device and is manufactured with precision out of fine materials. Today virtually all boats employed in lifting gear are motorized. The number of sailboats which were most widely used in 1885 has dwindled to one in 1936 in Michigan. Further, facilities for and the technique of operation have been greatly improved both on shore and on the vessels and boats. This is

TABLE 2.—State of Michigan. Statistics of Commercial Fisheries of Great Lakes for years 1879, 1885, 1908, and 1934.

Year	Persons employed	Capital invested	Catch in pounds	Value of products	Vessels		Boats	APPARATUS						Seines	
					Num-ber	Ton-nage		Gill-nets	Pound-nets	Trap-nets	Fykes and Hoops	Hooks	No.	No.	Length, Yards
1879	1,781	\$442,665	24,834,000	\$716,170	36	914	454	22,700*	677*	0	30*	p	131*	p	p
1885	3,502	\$1,765,680	32,466,808	\$984,560	72	p	2,255	41,277	1,356	0	847	484,400	99	19,059	
1908	3,472	\$2,013,000	38,302,000	\$1,473,000	110	1,480	1,647	55,673	1,906	347	1,069	185,200	120	p	
1934	3,617	\$3,972,499	28,648,600	\$2,122,255	222	2,539	1,474	37,623	880	3,608	989	488,070	114	40,140	

*Estimated.

indirectly evident from the fact, as shown in Table 2, that, although the amount of gear fished has increased tremendously since 1885 and the average length of the runs on the lakes has increased for all types of boats, the number of persons employed has increased very little since 1885. The data of Table 2 amply illustrate the well established fact that the formerly abundant fisheries of the state of Michigan, at one time universally believed to be inexhaustible, have been depleted and in many localities exterminated.

Nevertheless, these fisheries are still of primary importance to the state of Michigan as is evidenced by the statistics for 1934 (Table 2). In this year Michigan produced some 28,648,600 pounds of fresh-water fish valued at approximately \$2,122,255. Michigan's statistics show that the annual production of fish during the period, 1920-1935, averaged some 25,757,311 pounds with an average value to the fishermen of some \$2,351,352. If the prices received by the wholesaler or the retailer had been considered, this value would have been increased considerably. The commercial fisheries gave direct employment in 1934 to some 3,617 fishermen working on vessels and the shore, of which 2,643 were regular and 974 were casual fishermen. The capital invested in operating gear such as nets, hooks, boats, etc., amounted to \$2,521,139, while that invested in buildings and grounds amounted to \$1,451,360, a grand total value of \$3,972,499. In addition to the producers there are certain industries directly connected with the fisheries, namely, transporting vessels, wholesalers, and manufacturers of fishermen's products. In 1934 these related industries gave permanent employment to 319 persons, paid out \$333,050 in salaries and wages, and produced manufactured products valued at \$268,991. No statistics are available to show the great value of the fisheries to industries indirectly connected with them, such as manufacturers of twine, boxes, barrels, tin cans, paper, ice, salt, marine supplies, trucks, vessels, boats, and engines, or transportation companies or gasoline and oil companies. Thus it is seen that in spite of the general decline

of the fisheries the fishing industry must still be recognized as one of major significance in Michigan.

All of Michigan's Great Lakes waters are by no means of equal importance in the production of fish. Lake Huron, including Saginaw Bay, ranks first in production, its annual catch during the five-year period, 1931-1935, averaging some 14,978,129 pounds or 52.2% of the total Michigan yield. Lake Michigan ranks second with a corresponding annual catch of 8,191,193 pounds or 28.5% of the total production. Corresponding values for Lake Superior which ranks third are 4,243,772 pounds or 14.8% and for Lake Erie which ranks fourth 1,304,761 pounds or 4.5%.

Some thirty species or varieties of fish occur in the commercial catch of the Great Lakes in Michigan waters. Only some fifteen of these (including four species of chubs), however, may be considered important with a yield of more than 100,000 pounds annually. The relative importance of the various species in the catch has varied from time to time with the degree of depletion. As the more desirable species became less abundant the more undesirable or rough fish came in greater demand. The principal species with an annual yield of about 1,000,000 pounds or more are, as given in order of magnitude of catch in the 1935 statistics (Table 3), lake herring, lake trout, whitefish, white suckers and mullets, chubs (seven species), yellow pike-perch, carp, and perch. Each of the first four named groups produced more than 3,000,000 pounds per year and together comprised 71% of the total production. Species with an annual yield between 100,000 and 500,000 pounds are red suckers, saugers, and menominees. Species of minor importance taken in quantities less than 100,000 pounds per annum are sheepshead, catfish, bullheads, smelt, grass pike, rock bass, lawyer, white bass, goldfish, dogfish, and mooneye. Thus it is seen that although thirty species of fish occur in the commercial catch, fifteen of some importance, five comprise 71% of the total annual production.

Six types of fishing gear take virtually all of the commercial

TABLE 3.—State of Michigan. Commercial Fisheries of Great Lakes. Catch in Pounds and Value, 1935.

Species	Total number of pounds	Value	Lake Michigan	Lake Superior	Lake Huron	Lake Erie
1. Herring.....	7,878,173	\$236,345	1,209,639	2,782,308	3,886,226	.....
2. Lake Trout.....	6,789,820	1,018,473	2,451,005	2,595,520	1,743,295	.....
3. Whitefish.....	3,757,541	751,508	1,431,724	428,935	1,894,807	2,075
4. White Suckers and Mullets.....	3,461,291	138,452	1,756,509	83,369	1,593,887	27,526
5. Chubs.....	2,377,952	166,457	1,801,380	189,717	386,855	.....
6. Yellow Pike-Perch.....	1,796,422	269,463	95,949	4,208	1,574,031	122,234
7. Carp.....	1,759,696	52,791	22,217	100	1,079,296	658,083
8. Perch.....	1,510,735	120,859	473,716	563	982,901	53,555
9. Red Suckers.....	471,291	18,852	173,591	72,427	167,254	58,019
10. Saugers.....	305,465	18,328	74,957	794	171,760	57,954
11. Menominee Whitefish.....	188,449	15,076	89,967	27,240	71,242	.....
12. Sheepshead.....	90,904	2,727	11,708	.....	10,771	68,425
13. Catfish.....	74,980	5,249	1,996	.....	57,704	15,280
14. Bullheads.....	58,151	1,745	491	205	13,441	44,014
15. Smelt.....	44,246*	2,212*	42,244*	187	1,815	.....
16. Grass Pike.....	23,654	1,892	10,995	1,916	9,199	1,544
17. Rock Bass.....	21,815	654	884	.....	17,815	3,116
18. Lawyers.....	17,468	349	10,096	1,415	5,187	770
19. White Bass.....	11,629	698	.....	.....	.....	11,629
20. Goldfish.....	5,454	164	.....	.....	.....	5,454
21. Dogfish.....	21	21	.....	.....	.....	.....
22. Caviare.....	1,303	121	.....	.....	1,047	.....
23. Mooneye.....	50	2	303	.....	.....	50
Totals.....	30,646,544	\$2,822,438	9,659,379	6,188,904	13,668,533	1,129,728

*Smelt taken from streams and lakes tributary to Lake Michigan amounted to 1,395,250 pounds with a value of \$46,260.

fish produced in Michigan. They are pound nets, trap nets, fyke and hoop nets, gill nets, seines, and hooks. Dip nets and spears take an insignificant quantity. Table 4 shows the distribution of the catch by gear for the year 1934, the last year for which these data are available. From this table it may be seen that gill nets and trap nets both took large shares of the total catch, the yield of the former exceeding that of the latter. Combined, these two kinds of apparatus produced some 19,212,000 pounds of fish representing 67% of the total weight and 74% of the total value. The pound net ranked third in production in 1934. The other types of gear ranked in importance as follows: hooks, seines, and fykes. Table 4 shows further that the same species of fish do not dominate the catch in the different types of gear. Given in order of magnitude of catch, the principal species taken by gill nets are lake trout, lake herring, chubs, and whitefish (92%). (The figure in parenthesis represents the percentage of the combined catch of the species mentioned in the total catch of the gear.); by pound nets lake herring, whitefish, and lake trout (90%); by "shallow" trap nets suckers, yellow pike-perch, and lake herring (81%); by "deep" trap nets whitefish (89%); by seines carp (80%); by hooks lake trout (98%); and by fyke and hoop nets suckers, yellow pike-perch, and yellow perch (74%).

A particular species is usually sought with a particular type of gear. Considering only the dominant species it may be seen from Table 4 that carp are taken chiefly in seines (82%) (The figure in parenthesis represents the percentage of the total annual catch of the species taken by the particular type of gear referred to.), chubs in small mesh gill nets (99%), herring in pound nets (49%) and gill nets (35%), trout in gill nets (63%) and on hooks (25%), suckers in trap nets (76%), whitefish in trap nets (53%) and gill nets (28%), perch in trap nets (58%) and gill nets (25%), and yellow pike-perch in trap nets (65%) and pound nets (15%).

TABLE 4.—State of Michigan. Commercial Fisheries of Great Lakes. Catch in Pounds by Gear, 1934.

Species	Pound nets	Trap nets	Fyke and hoop nets	Gill nets	Seines	Hooks	Total	
							Pounds	Value
Bowfin.....	.....	.....	3,000	.....	100	.....	3,100	\$31
Burbot.....	.....	2,800	2,300	.....	100	.....	13,800	250
Carp.....	28,700	181,400	43,300	5,800	.....	2,700	1,425,300	27,994
Catfish and Bullheads.....	2,700	53,400	47,300	5,100	1,166,700	.....	1,425,300	27,994
Chubs.....	7,000	600	300	1,553,100	15,100	200	1,561,100	6,006
Cisco.....	.....	.....	.....	.....	.....	.....	.....	150,249
Goldfish.....	.....	.....	5,600	.....	900	.....	800	34
Lake Herring.....	3,660,300	1,200	16,200	2,626,000	26,000	1,573,400	7,502,400	150,334
Lake Trout.....	519,100	266,800	2,700	3,950,900	.....	.....	6,312,900	768,477
Micropterus.....	10,100	5,600	100	150,700	.....	.....	166,500	8,927
Moonseye.....	.....	.....	.....	.....	.....	.....	.....	9
Pike (jacks).....	2,400	12,300	5,900	2,900	600	.....	600	1,951
Rock Bass.....	2,400	17,800	7,400	.....	1,300	.....	24,400	1,951
Sauger.....	4,800	113,800	16,700	17,700	1,000	.....	17,700	1,230
Shad.....	9,900	33,700	16,000	.....	5,800	.....	154,000	13,629
Shadsphead.....	2,200	3,700	.....	10,400	.....	.....	63,600	1,256
Sinnet.....	.....	.....	266,500	.....	.....	.....	15,600	780
White Bass.....	198,800	2,773,400	5,700	277,800	151,100	.....	3,664,600	85,359
Whitefish.....	943,700	2,581,200	7,700	1,358,300	.....	.....	4,890,800	698,245
Yellow Perch.....	32,000	500,400	77,400	218,700	11,300	19,400	859,200	58,945
Yellow Pike-perch.....	278,300	1,185,700	162,800	127,400	77,800	700	1,832,700	217,715
Total pounds.....	5,701,000	8,906,600	680,200	10,305,400	1,458,100	1,597,300	28,648,600	.....
Total value.....	\$305,701	\$652,189	\$34,369	\$909,161	\$38,218	\$182,617	.....	\$2,122,255

SURVEYS OF THE MICHIGAN WATERS OF THE GREAT LAKES.
STATISTICAL, LIMNOLOGICAL, AND BIOLOGICAL.

Statistical surveys of the Michigan fisheries of the Great Lakes have been made at various times by both the federal and state governments. There are now available in the publications of the United States Bureau of Fisheries, Washington, D. C., detailed statistics of the Michigan fisheries for the years 1879, 1885, 1890, 1893, 1897, 1899, 1903, 1908, and for all the years from 1913 to 1934 inclusive. The State Board of Fish Commissioners published in its biennial reports statistical data of the fisheries for the years 1883 to 1889 inclusive and 1891 to 1908 inclusive whereas the State Game, Fish, and Forestry Warden published those for the years 1911 to 1913 inclusive, the State Game, Fish, and Forest Fire Department those for the years 1914 to 1919 inclusive and the Department of Conservation those for the years 1920 to 1935 inclusive. The statistics collected by Michigan for the period, 1883-1889, are very fragmentary but those for the other years are complete. In 1909 the supervision of the commercial fisheries was transferred from the Board of Fish Commissioners to the State Game, Fish, and Forestry Warden which office was superseded in 1915 by the State Game, Fish, and Forest Fire Department of the Public Domain Commission. With the consolidation of both of these organizations, together with others, into the Department of Conservation in 1921, publication of commercial fishery statistics became a function of this department.

Reference must be made here to the tremendously important pioneer work done by the state of Michigan in introducing, experimenting with, and finally perfecting a new system of collecting fisheries statistics. Previous to 1927 statistical reports were submitted annually by the fishermen. Many of these reports were known to be incomplete and erroneous since relatively few fishermen kept careful, detailed, and permanent records of their business transactions. Further, these annual reports, although they furnished important data on the total number of persons employed, on the kind, quantity, and value

of operating gear owned, and on the kind, amount, and value of the annual production, supplied no information on the daily or seasonal catch, on the location of the waters fished, and on the catch per unit of fishing gear or of fishing time. These latter data are absolutely essential if biologists and others are to understand the changes or fluctuations that occur in the fish population year by year and thus be able, ultimately, to determine the trend and the true conditions of each fishery in the various sections of each lake. Catch per unit of fishing effort has long been recognized as the only safe index of abundance of fish in the sea or lakes, but until Michigan instituted the new system in 1927 such data were not available for the Great Lakes.

Under the new system each licensed fisherman is required to submit a monthly report in which are recorded a daily record of the kind and amount of gear lifted, the length of time over which it has fished, the location of fishing grounds, and the catch in pounds for each species. The new Michigan system, modified from time to time and perfected in its details, is now considered a model for other states with similar fishing conditions. All but two of the states fronting the Great Lakes have already adopted the new method.

Limnological surveys. Limnological surveys in this country have been restricted almost entirely to small inland lakes, while the Great Lakes have, until very recently, received little attention. Agassiz in 1850 published probably the first scientific data on the general environmental conditions of the Great Lakes confining his report to Lake Superior including Michigan waters. But to the state of Michigan belongs the honor of having carried on the first real limnological survey on the Great Lakes. In the summer of 1893 a scientific field laboratory was established by the state on Lake St. Clair under the direction of Professor Jacob Reighard of the University of Michigan. The primary objective of this investigation was to determine where in the Great Lakes were to be found the conditions favorable to the planting of whitefish fry. The survey

was continued in the summer of 1894 on Grand Traverse Bay and on Lake Michigan in the vicinity of Charlevoix under the direction of Dr. Henry B. Ward at that time of the University of Nebraska (Professor Reighard was in Europe at that time). These surveys resulted in a great increase in the knowledge of the natural history of the fresh-water fauna and flora of the state, of the environmental conditions that surround the whitefish, and of the food habits of fish, especially of the whitefish.

No other limnological surveys were conducted in the Michigan waters of the Great Lakes until 1929 when the Lake Erie cooperative limnological investigation conducted by the state of Ohio and the United States Bureau of Fisheries was extended into Michigan waters in the western end of the lake. This survey continued through 1930. Its primary purpose was to determine the effect of pollution from such rivers as the Maumee, Raisin, and Detroit on the fisheries, and otherwise to learn the physical, chemical, and biological conditions in the lake with particular reference to their bearing on young fish.

Although no other complete limnological surveys were made in the Michigan waters of the Great Lakes than the two referred to above yet many important data on environmental conditions were collected either by individuals or by organizations. For example, the War and Naval departments completed important surveys on depths and character of bottom for navigation purposes, and the International Joint Commission made thousands of bacteriological tests in its sanitary survey of the Great Lakes during the years 1912-1914. Again, Drummond (1890) published information on the temperatures of the Great Lakes and Harrington (1895) on the currents. Just recently the United States Bureau of Fisheries, in cooperation with the states of Michigan and Wisconsin, and under the direction of Dr. John Van Oosten, completed what might be termed a partial limnological survey of Lake Michigan in connection with its survey of the fisheries of this lake. This investigation continued from June, 1930 to September, 1932 and during this period data were collected whenever possible on

the temperatures, transparency of the water, currents, bottom soils, bottom organisms, and plankton of the lake.

Biological fishery surveys. The surveys devoted specifically to the fisheries of the Great Lakes, including those of Michigan, have been numerous. Sixteen of these, excluding the purely statistical, warrant mention here. The first survey was made in 1871, 1872, and 1873 by James W. Milner, assistant commissioner of the United States Commission of Fish and Fisheries, who visited all the principal fishing localities, gathered testimony of the fishermen as to the condition of the fisheries, its comparison with former years, the kinds and value of nets and boats in use and their effect on the numbers of fish, and the opinion of the net-owners and of others familiar with the fisheries on the influence of protective legislation. Milner also acquired much information on the history and modes of fishing, the species captured, their habits, natural history, and abundance, and the general distribution of invertebrate forms in certain areas of the lakes. Similar surveys were made by the United States Commission of Fish and Fisheries during the years 1879, 1885, 1890, 1899, and 1903.

In 1885 the Michigan State Board of Fish Commissioners initiated its first fishery survey of the Great Lakes. This survey conducted by Lyman A. Brant aimed to secure a reliable report of the extent, value, and condition of the fisheries but in addition included information on the history and methods of the fisheries, natural history of the principal commercial species of fish, causes of depletion, and means of combatting depletion by proper regulations. Similar surveys were conducted under the jurisdiction of the Board by S. C. Palmer in 1890 and by Charles H. Moore in the years 1891 to 1897 inclusive.

The most extensive and most complete general survey of the Great Lakes fisheries was that conducted in 1893-1896 by Rathbun and Wakeham appointed as a Joint Commission by Great Britain and the United States to study the fisheries in waters contiguous to Canada and the United States and to

consider and report on the regulations, practice, and restrictions proper to be adopted in concert on the (1) limitation or prevention of exhaustive or destructive methods of taking fish, (2) the prevention of pollution or the obstructing of waters to the detriment of the fisheries, (3) the adoption of uniform closed seasons and (4) the adoption of practical methods of restocking and replenishing the waters with fish. In their excellent report the authors discuss for each body of water the statistics, the history of the fishing methods, the extent and causes of decrease and present excellent notes on the distribution, movements, size, and spawning of the important market species in each lake.

Under the provisions of a proposed treaty in 1908 another international survey of the Great Lakes fisheries was conducted under the direction of Dr. David Starr Jordan representing the United States and Dr. E. E. Prince representing Canada. The results of this survey were not published other than a code of specific recommendations together with explanatory notes.

Another Great Lakes fishery survey quite different from all others was undertaken in 1925 by the United States Tariff Commission with a view of acquiring "factual data that may be useful in constructing a tariff schedule for fresh-water fish." Very valuable and new information was gathered on the status and cost of production of the various market fish by various kinds of gear in both Canada and the United States. The production of 1924 served as a basis for discussion. Detailed data are given in the report on the methods and cost of fishing, of boxing and icing fish, of freezing, salting, smoking, filleting, and storing fish, and of transporting fish.

An excellent review of the history and the general condition of the Great Lakes fisheries was published in 1926 by Dr. Walter N. Koelz formerly with the United States Bureau of Fisheries. This illustrated report discusses the historical background of the fisheries, its organization, boats, apparatus, products, methods of fishing, fishing districts, principal species

of fish, fishing regulations, and depletion including its causes and remedial measures. Most of these topics are also discussed very briefly in a report published by Dr. John Van Oosten in 1936.

The latest surveys were completed by the United States Bureau of Fisheries in cooperation with the state of Michigan and under the direction of Dr. John Van Oosten. Most of these recent surveys departed from the procedures of previous fishery surveys in that they dealt specifically with a study of the destructiveness of various types of fishing gear to immature fish at different seasons of the year and in various areas of a lake, and with biological studies that involved the collection of fish scales for purposes of age and growth determinations. The former study necessitated the operation of a series of experimental nets in which different size meshes were used. The first experiment was conducted on Saginaw Bay with herring pound nets and continued from November, 1928 through June, 1930. Its primary objective was to determine whether small herring could be sorted from the commercial catch by an increase in the size of mesh in the lifting pot, and without an undue increase in amount of gilling of adult herring or of immature whitefish and yellow pike-perch.

From June, 1930, to September 15, 1932, extensive experiments were carried on with chub gill nets in Lake Michigan and Green Bay for the purpose of securing definite data on the following three questions that have been the underlying cause of considerable friction between the fishermen of Michigan and of the other states fronting the upper lakes, and have continually hampered progress in the establishment of uniform laws especially on Lake Michigan. The questions are: 1. Can gill nets be fished for chubs in the Great Lakes without destroying small immature lake trout? 2. Can the present destruction of small lake trout by chub nets be reduced by increasing or decreasing the size mesh now used in chub nets? 3. Which of the three meshes ($2\frac{1}{2}$, $2\frac{5}{8}$, or $2\frac{3}{4}$ -inch) advocated for chubs in the different states is least destructive to lake trout? In this

survey the United States Bureau of Fisheries' motorship, "Fulmar", was employed. The vessel was fully equipped with experimental fishing gear and was manned by an experienced crew of fishermen.

The next survey begun in July, 1931, and completed in October, 1932, covered a detailed study of the operation of the recently introduced deep-water trap net and its effect on the whitefish population of Michigan waters.

In all of these recent surveys tens of thousands of fish were individually measured, weighed, and sexed, and from many a sample of scales was removed for age and growth studies and stomachs taken for food analysis. These recent surveys provide definite data on many of the long-standing questions of dispute concerning gear and life histories that have been referred to repeatedly by early investigators but for some reason were never investigated to a conclusive solution.

UNIFORM REGULATIONS ON THE GREAT LAKES.

No history of the commercial fisheries of Michigan would be complete without some reference to the important question of uniform laws on the Great Lakes. All through the early as well as some of the more recent reports on the fisheries this question comes up repeatedly and it is still a lively subject today. In fact all of the recent cooperative surveys conducted by the United States Bureau of Fisheries were designed partly with the view of establishing desirable uniform laws on each of the lakes and thus dispose of another of a series of burning questions that have hampered for decades the progress of the conservation of the Great Lakes fisheries. In the following historical review reference is made only to those events in which Michigan took an active part.

In the very first report (1875, page 38) of the first Superintendent of State Fisheries in Michigan (Mr. George H. Jerome) two sections are devoted to a discussion of the necessity of cooperative action between the Great Lakes states and the establishment of uniform laws. In his third report (1879)

Mr. Jerome writes that the outlook for concerted action by the several states is not remarkably promising and he therefore recommends that either the federal government create a special commission to take charge of the whole situation or that the Federal Fish Commission be allowed to take charge.

On October 17 and 18, 1883, the first Great Lakes Inter-state Conference was called at Detroit by the Michigan Fish Commission to discuss the need of uniformity of fishery legislation. Representatives attended from Minnesota, Wisconsin, Ohio, Michigan, and the United States Commission of Fish and Fisheries. Some thirteen excellent recommendations were agreed upon and it is of interest to note that six of these, though never adopted in Michigan, would be wise measures even today. The second inter-state conference was held at Milwaukee, Wisconsin in October, 1884, and much the same ground was gone over as at the first conference. Reference to the desirability of uniform laws was again made in the seventh biennial report of the Michigan Board of Fish Commissioners (1887, page 80).

The third recorded conference on the Great Lakes fisheries was held October 12, 1891, in New York City, but this conference was international in scope, including the Province of Ontario, and was designated the International Fish and Game Conference. A special committee was appointed which met at Rochester, New York, November 10, 1891, and drew up a report on uniform laws that was submitted to the second meeting held December 9, 1891 at Hamilton, Ontario. The third and final meeting of this organization, held in Detroit, Michigan on December 21 and 22, 1892, adopted a series of resolutions that prohibited the destruction of small fish, provided for uniform closed areas, uniform closed seasons, and uniform size limits.

At the annual meeting of the American Fisheries Society in 1897 a committee, comprised of one representative from each of the Great Lakes states, was appointed to lay before state officials the need of uniform regulations on the Great Lakes. At this meeting Mr. H. Whitaker, of the Michigan Board of

Fish Commissioners, reported that resolutions had already been adopted by the 1896-1897 legislatures of Minnesota, Wisconsin, Illinois, and Michigan providing for the appointment of representatives who were to meet in the summer of 1897 as an interstate committee to draw up a code of uniform regulations. No printed record of results appears, although the committee is known to have met and to have made some recommendations. (*Biennial Report, Wisconsin Commissioners of Fisheries, 1899, page 10*).

Another attempt to establish uniform laws on the Great Lakes was made at a conference of state officials held at Chicago in April, 1904. The Honorable C. D. Joslyn of the Michigan Fish Commission reported on this conference as follows (1905, page 218): "The result of the meeting was that we did agree upon several recommendations to be made to the respective legislatures of the states represented. But the sad sequel of it all is that no two of the legislatures agreed to nor followed these recommendations. Some states followed some part of them, other states followed some other part, but there was no uniformity and no unanimity. So that we are just where we started—nothing accomplished." Only the states of Minnesota and Wisconsin lived up to the agreement made at Chicago to pass resolutions ceding control of the commercial fisheries of the Great Lakes to the national government. S. F. Fullerton (1906) refers to two other interstate meetings held at Chicago, but apparently no records have been published concerning them.

No records have been found of any other interstate or international fisheries conferences participated in by Michigan until those of recent date beginning in 1927, although the question of uniform laws had been kept alive through the intervening years by published discussions, resolutions, and reports. At the invitation of the Governor of Ohio, an international conference was held at Columbus, Ohio on February 16, 1927, for the purpose of securing coördinated action in conserving the fisheries of Lake Erie. The Lake Erie International Conservation Council

was formed at that time and a group of resolutions was adopted, but the council never functioned. At the call of the Governor of Michigan another international conference convened at Lansing, Michigan on March 3, 1927, to consider ways and means for conserving the fisheries of all the Great Lakes. The International Fisheries Conservation Council of the Great Lakes was formed which again met at the call of the Governor at Lansing, Michigan on February 8, 1928, and on December 5, 1928. Measures of general application to all the lakes were approved and these governed the use of gill nets, the size limits of fish, the taking of spawn, the control of pollution, and the collection of fisheries statistics.

On December 20, 1929, Michigan and Ontario held an informal conference at Toronto, Ontario, for the purpose of exchanging views on the differences in their fisheries regulations on Lake Huron and of formulating an acceptable code of uniform regulations for this lake. No definite action was taken by either party following this conference.

At the invitation of the Commissioner of Conservation of the state of New York an international conference was called at Buffalo, New York on October 12, 1931, to discuss the possibility of establishing uniform laws on Lake Erie. The results of the various interstate and international surveys on Lake Erie completed in 1929, 1930, and 1931, were reviewed together with the recommendations based on these surveys. This conference provided for the establishment of a permanent Lake Erie Advisory Committee comprised of one representative from each of the states fronting Lake Erie, the Province of Ontario, and the United States Bureau of Fisheries. The functions of this committee were to study and examine all the recommendations that were proposed for the Lake Erie fisheries, to recommend uniform regulations for adoption, and to act in an advisory capacity on all questions pertaining to the uniform regulation of the fisheries of this lake. The Committee held three meetings, the first on June 22, 1932 at Buffalo, New York, the second on December 2, 1932 at Toronto, Ontario, and the third on

October 2, 1934 at Columbus, Ohio. At the second meeting an agreement embodying certain vital regulations was drawn up and signed on February 28, 1933, by the heads of the various fish and game or conservation departments, and all but one of the five regulations were actually enacted into law. This is the first case on record where uniform laws proposed for the Great Lakes by a conference or a committee were actually adopted by the states and the province involved to become effective simultaneously in all the commonwealths represented.

Unfortunately, however, in the fall of 1933 New York found it impossible, largely because of political pressure, to enforce the adopted closed season. This failure led to the third meeting of the Committee at Columbus and ultimately resulted in a similar violation by the other signatories, the complete abrogation of the so-called Toronto Agreement, and the dissolution of the Lake Erie Advisory Committee. Thus, the first formal contract ever signed by a group of Great Lakes states and the Province of Ontario to provide uniform regulation of the commercial fisheries ended in dismal failure. Attempts to revive the Lake Erie Advisory Committee and to again strive for uniform laws on Lake Erie were made at an international conference held at Washington, D. C. on February 4 and 6, 1936 and at a meeting of state representatives held at Chicago, Illinois on April 27, 1937. The final conclusion reached at the Chicago conference was the general opinion that further efforts to obtain uniform laws on Lake Erie or on any other lake by a state compact, federal control, or international treaty would be useless inasmuch as the public is not yet aware of the sad condition of affairs on the Great Lakes and therefore has not yet been aroused sufficiently to make a vigorous demand for federal or international control in opposition to the relatively few fishermen who disapprove of such control.

At the request of the Conservation Director of the state of Wisconsin, representatives from Michigan, Indiana, Illinois, Wisconsin, and the United States Bureau of Fisheries met at Chicago, Illinois on January 5, 1933 to draw up a set of regu-

lations that would govern uniformly the fisheries of each state fronting Lake Michigan. The recommendations of this conference met the usual failure of enactment.

On January 6 and 7, 1936 another meeting was held at Chicago attended by representatives from Ohio, Minnesota, and the above-mentioned states and bureau. A comprehensive list of recommendations was adopted for the fisheries of lakes Michigan and Superior. Many of these recommendations have already been enacted into law by the 1937 legislatures of the states of Michigan and Illinois. It is hoped in the near future that these regulations will also be adopted by the other participating states.

On March 16 and 17, 1936, a conference was held at Toronto, Ontario, between the Province of Ontario and the state of Michigan for the purpose of discussing uniform regulations of the fisheries on Lake Huron. A tentative agreement was reached which is still held in abeyance subject to further consideration. That the topic is still a live issue is evident from the fact that the Michigan legislature passed at its 1937 session a concurrent resolution providing for the appointment of a committee to confer with the Ontario officials "on the question of establishing uniform regulations governing the propagation and taking of fish from the waters of Lake Huron, Lake St. Clair and Lake Superior."

From this hasty review of the history of the attempts by the states to enact uniform fisheries laws on the Great Lakes, in which efforts Michigan always took a leading part, it is seen that the situation today is similar to that described by Jerome in 1879, namely, that the outlook for concerted action by the several states is not remarkably promising and if uniform laws are to be established on the Great Lakes, congress will have to act. The states are as far apart today as ever in their fisheries regulations, in spite of the fact that great advances have been made in conservation by all of them since 1875.

Federal control of the fisheries of the Great Lakes has been recommended by virtually all who have studied the situation

impartially, whether he were scientist, administrator, or layman. Organizations recommended it. The American Fisheries Society, the oldest (organized in 1870) and most active organization of its kind in North America, whose membership has always included virtually all the leading fisheries administrators, fish culturists, and fisheries biologists of the United States and Canada, has repeatedly taken a definite and active stand on the question of federal control of the fisheries on the Great Lakes. Resolutions urging or commending such control were adopted by the society at its annual meetings in the following years and in possibly other years also: 1891, 1896, 1905, 1906, 1907, 1908, 1918, 1924, 1926, 1927, 1928, 1929, 1931, and 1933. So far as records are available only once, in 1892, has the society taken an opposite stand favoring control by the states.

In 1908 the Great Lakes fisheries became involved in a treaty between the United States and Canada which provided for the appointment of an International Fisheries Commission instructed to draw up a system of uniform regulations for the protection of the fisheries of all international boundary waters. These regulations were submitted to congress by President Wm. H. Taft on February 2, 1910, and were again urged for adoption by him in messages to congress on December 6, 1910 and February 10, 1911. In a letter of February 24, 1914, President Woodrow Wilson urged the immediate passage of the 1908 treaty by congress. Secretary of State Wm. J. Bryan did likewise in a letter of February 9, 1914. The treaty, however, never passed congress, although the Canadian parliament accepted it immediately on submission in 1910. The Fourth International Fisheries Congress held in Washington in 1908, as well as the North American Fish and Game Protective Association assembled at Albany, New York in 1907 expressed themselves in favor of this treaty and federal control.

The Izaak Walton League of America adopted at its last national convention held at Chicago, May 1, 1937 two resolutions recommending international control of the fisheries of the Great Lakes common to both countries and of the fisheries of

Lake Erie to the end that uniform regulations may be adopted for the fisheries of all of these waters.

The Honorable John Luecke, Michigan's representative from Escanaba, introduced in the last regular session of congress a joint resolution directing the United States Bureau of Fisheries to investigate the fishing industry of the Great Lakes and to recommend to "the Congress the results of its investigation and survey together with its recommendations for legislation or other action by the United States."

Not only did the leading fishery organizations of the country repeatedly urge federal control but also many state and federal administrators and scientific investigators who were familiar with the Great Lakes fisheries or who had investigated these fisheries. Among the administrators, past and present, may be mentioned such men as George H. Jerome (First Superintendent of Fisheries, Michigan), J. W. Collins (Scientist, U. S. Fish Commission), Dr. G. A. MacCallum (Fish Commissioner, Ontario), C. D. Joslyn (Fish Commissioner, Michigan), S. F. Fullerton (Fish Commissioner, Minnesota), Board of Commissioners of Fisheries, Wisconsin (1908, 1914), W. E. Meehan (Commissioner of Fisheries, Pennsylvania), J. W. Titcomb (Superintendent of Fish and Game, Connecticut), Dr. Hugh M. Smith (U. S. Commissioner of Fisheries), E. W. Cobb (formerly of Minnesota, now Chief, Division of Fish Restoration, Connecticut), John Baird (Director, Department of Conservation, Michigan), James A. Rodd (Director of Fish Culture, Dominion Government, Canada), and Carlos Avery (Game and Fish Commissioner, Minnesota). The scientific investigators who made extensive surveys of the Great Lakes fisheries and who favored federal control of these fisheries include such men as Dr. David Starr Jordan, Dr. Barton W. Evermann, Dr. Richard Rathbun, Dr. E. E. Prince, Dr. Wm. Wakeham, Dr. Hugh M. Smith, and Dr. Walter N. Koelz. The last named investigator spent some ten consecutive years in a study of the Great Lakes fisheries.

Everyone familiar with the situation concedes that regulations, if they are to meet the varying conditions of the Great Lakes, must be devised independent of state boundaries. This requires concerted action by the Great Lakes states. But despite the urgent pleas and the earnest efforts during the past fifty years such action has not been realized. The need of concerted action is evident but its attainment seems hopeless and therefore the prevailing sentiment among the conservationists of the country even today favors federal or international control of the important natural resources of the Great Lakes.

DEPLETION AND CONSERVATION OF THE GREAT LAKES FISHERIES.

Much has been written concerning the general depletion of the fisheries of the Great Lakes and no one conversant with the history of these fisheries will deny that the fish of these lakes are very much less abundant now than years ago. The history of the depletion of the fisheries of the Great Lakes is very similar to the well-known histories of the wasteful practices involved in the harvesting of other natural resources of the state, such as lumber. Many factors have contributed to the disappearance of the Great Lakes fish the most important ones being overfishing, the destruction of immature fish by small-mesh nets, the deliberate efforts of fishermen to exterminate the so-called "rough" or undesirable fish, for example the sturgeon, the taking of fish on their spawning grounds, and the fouling of the water with various foreign substances such as mill refuse, fish offal, ashes, effluents from industrial plants, etc.

These factors are very well known to fishermen and investigators alike, and the need for regulating them is conceded by all. But, as was apparent in the section on uniform laws, diversity of opinion often prevented the enactment of proper regulations. It was once believed that artificial propagation could counteract any destructive practices among the fishermen and therefore would obviate all necessity for regulations. Experience has taught otherwise. Although the majority of the commercial fishermen of Michigan still believe in the effective-

ness of hatcheries for commercial fish they likewise realize that propagation alone will not maintain the fisheries. The size of mesh and depth of nets must be regulated, proper size limits must be established, closed seasons during spawning must be enforced, and closed areas established. All of these measures are incorporated in some form and to some degree in the Michigan statutes. There are no laws however that actually restrict the amount of gear that may be set or the quantity of fish that may be taken from the Great Lakes. Ultimately such measures may be enacted.

The achievement of adequate regulations, establishing new measures to cover new conditions and improving measures now in force to provide better protection, requires the services of a carefully trained and experienced staff of scientific investigators, for most of the fisheries problems demand carefully controlled experiments, investigations of life histories and natural histories, and a detailed analysis of fisheries statistics. Only since 1927 has a permanent scientific staff of fisheries biologists been established on the Great Lakes. This staff, established by the U. S. Bureau of Fisheries and located at Ann Arbor, Michigan, maintains in all of its work close contact with the various Great Lakes states, especially the state of Michigan.

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D ICTIONARY OF AMERICAN BIOGRAPHY. Dumas Malone, editor. 20 volumes. Scribners, N. Y., 1928-1936. Price \$12.50 per volume: \$250 per set.

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The 20 volumes contain over 13,000 biographies, based on original research, readably written. No living person is included. It is safe to say that double this number might have been usefully included if the articles had been limited to half their space, and probably a different editorial board would have chosen other names for many of those selected. The human equation inevitably plays strongly into problems of selection and spacing.

These sketches represent the work of over 2,000 different writers. They are more than sketches, some of them representing the best biographies of their subjects to be found in print. Many readers will find the greatest value, however, in the treatment of those subjects, less than major, which can not elsewhere be found, or which are nowhere else adequately treated. The same painstaking scholarship has been used on these as upon the more important.

It is interesting that the proportion of women to men is about one to twenty. Arresting also is the fact that a very large proportion of all persons included are descendants of clergymen.

This great work has been sponsored by a council of learned societies, among them the American Historical Association, the American Philosophical Society, the American Economic Association, and the Modern Language Association of America.

THE TERRITORIAL PAPERS OF THE UNITED STATES. Compiled and edited by Clarence E. Carter. Vol. V: *The Territory of Mississippi, 1798-1817*. U. S. Government Printing Office, Washington, D. C., 1937, pp. 815. Price \$1.50.

Previous volumes of this series have been reviewed in the Magazine. The present volume is the first of two volumes relating to the Territory of Mississippi, covering the Territorial history of the present areas of Mississippi and Alabama. Varied selections illustrate the organization of the Territory, internal politics, extension and development of the postal service, the land question in its varied aspects, affairs connected with the Mobile district, division of the Territory, and preparations for

statehood. The series of which this volume is a part will, when completed, comprise 32 volumes of material hitherto not accessible in print, and will make possible to remote geographical areas the scholarly study of sources relating to the Territorial history of the United States.

ANGLO-FRENCH BOUNDARY DISPUTES IN THE WEST, 1749-1763. Theodore C. Pease, editor. Illinois State Historical Library, Springfield, Ill., 1936, pp 607. Price \$2.50.

Vol. XXVII of the *Collections of the Illinois State Historical Library*. An important contribution to published diplomatic documents bearing upon formative American history. Dr. Pease's elaborate introduction of 171 pages, extensively annotated, is specially helpful to the general reader. It tells the astounding story of the unscrupulous struggle of French, English and Spanish diplomats for title of possession in the region of the Great Lakes and the Mississippi valley during the period of the Seven Years' War. The documentary portion is carefully selected and abridged from archive and manuscript repositories in America and abroad, particularly London, Paris, and Ottawa. A model of scholarly editing.

HISTORY OF THE ORDINANCE OF 1787 AND THE OLD NORTHWEST TERRITORY. (A supplemental text for school use). Prepared for the Northwest Territory Celebration Commission under the Direction of a Committee Representing the States of the Northwest Territory: Harlow Lindley, chairman; Norris F. Schneider, and Milo M. Quaife. The Federal Writers' Project Cooperating. Published by the Northwest Territory Celebration Commission, Marietta, Ohio, 1937, pp. 95. Illustrated. Price 10 cents (coin, no stamps).

Brief but scholarly. While not based upon study of original sources by the sponsors, in the words of Dr. Lindley it aims "to digest in correlated form, and briefly, the fund of material which already has been developed by countless individual studies and writings." Illustrations were provided through a drawing contest among students in schools of the "Old Northwest" states. A short but adequate list of readings invites to further study. The frontispiece presents a pictorial map of the Northwest Territory. The volume is distributed free to school and college teachers in the Old Northwest area through the Department of Public Instruction in the several states. A large colored edition of the frontispiece made for framing or wall use can be obtained at a nominal charge from the Northwest Commission, at Marietta, Ohio.

THE STORY OF THE CONSTITUTION. By Sol Bloom. Published by the United States Sesquicentennial Commission, Washington, D. C., 1937, pp. 192. Price, boards, 15c. De Luxe, 50c.

An account of the Constitution written simply but adequately for the people. Contains complete text and all amendments. Alphabetical analysis adds convenience for reference. Historical maps and a brief sketch of national development show the changes the nation has undergone since the beginning of the government. Pictures of the signers of the Constitution are accompanied by thumbnail sketches of their lives. Various tables are supplemented by a series of "Questions and Answers." Text of the Declaration of Independence and of Washington's Farewell Address are added, also portraits and sketches of the eleven men who have served as Chief Justice of the United States Supreme Court. A brief history of the Great Seal closes the work. All is bound together by a comprehensive index.

THE NATIONALIZING OF BUSINESS, 1878-1898. By Ida M. Tarbell. Macmillan, N. Y., 1936, pp. 313. Illustrated. Price \$4.

Volume IX in the *History of American Life* series published by the Macmillan Company. A reappraisal of a dramatic period of exploitation of American resources and the American market, by one whose lifetime has covered a revolution in American business. Treats in broad outline of the sweep of settlement into the west and southwest, consolidation of the means of transportation and communication, the harnessing of electricity, the rise of trusts, the clash of conflicting social and economic ideas, the rise of class consciousness among farmers and factory workers, the protective tariff, movements for control of monopolies, panics and monetary controversies. Interwoven throughout are the human factors that played into the reconstruction of business and society. A magnificent drama described by a graphic pen. No clear picture is given of the new institutions created to take the place of the old.

ARE AMERICAN TEACHERS FREE? AN ANALYSIS OF RESTRAINT UPON THE FREEDOM OF TEACHING IN AMERICAN SCHOOLS. By Howard K. Beale. *Report of the Commission on the Social Studies*, Part XII. Scribners, N. Y., 1936, pp. 855.

A volume deserving of wider circulation than it probably will get in its present form. Uses the case method extensively. First third of the book is devoted to discussion of intrascholastic restraints in connection with such topics as war, peace, patriotism, politics, economics, internationalism, religion. Second, much space is given to text books, teaching problems, personal conduct, tenure, appointment, and special schools. Third, are discussed outside forces and pressures of political, social and economic origin. A liberal, courageous and scholarly volume, twice too long. Its abundant wit would profit by brevity.

WILLIAM HOLMES MCGUFFEY AND HIS READERS. By Harvey C. Minnich. Amer. Book Co., N. Y., 1936, pp. 203. Price \$2.25.

Contains much of the *Readers*, but little about McGuffey. An outline rather than a biography. Meager in its treatment of the background out of which the *Readers* grew. Contains a fair analysis of the *Readers* themselves. McGuffey deserves an adequate biography. He was successively professor of mental and moral philosophy at Miami University (Oxford, Ohio), president of the college at Cincinnati, president of Ohio University, and for twenty-seven years a teacher of philosophy at the University of Virginia, where he died and was buried. His influence upon the civilization of the West was unquestionably great. The author of this volume, Dr. Harvey C. Minnich, dean emeritus of Miami, is a McGuffey enthusiast and writes in a frankly partisan vein.

OLD FAVORITES FROM THE MCGUFFEY READERS. Harvey C. Minnich, editor. Amer. Book Co., N. Y., 1936, pp. 482. Illustrated. Price \$3.50.

In the Spring number of the Magazine for 1937, Mr. Henry Haigh describes the McGuffey Readers, in his article on "Old Schoolbooks in the Ford Collection." Mr. Henry Ford was one of the persons who helped to make the 150 selections for *Old Favorites*. Other helpers were John W. Studebaker, United States Commissioner of Education, John H. Finley, editor of the *New York Times*, former Governor James M. Cox of Ohio, Mark Sullivan, and the late Senator Simeon D. Fess. These men and others equally prominent have acknowledged their indebtedness to the influence of McGuffey's Readers. Michigan as a state in the new West was in the immediate circle of influence. The First and Second Readers were published in 1836 just as Michigan was entering statehood, published at Cincinnati, Ohio. The present volume was issued to help the McGuffey Centennial in 1936. No doubt many eyes were dimmed by reading again these homely pieces of courage, loyalty, thrift, perseverance, integrity, kindness, honesty, temperance and other qualities inculcated on the frontier. Through Mr. Ford's generosity the entire six *Readers* of the 1857 edition have been reprinted and distributed. The entire set in the original format is now available for \$3.04. The editor of *Old Favorites* is dean emeritus of Miami University, Oxford, Ohio, author of *William Holmes McGuffey and His Readers*, mentioned elsewhere in this issue of the Magazine.

Among the many items of the current Lincoln output, of special interest are the following:

Two papers delivered before the Abraham Lincoln Association at Springfield, Illinois, in February, 1936; "Lincoln, the Constitution and

Democracy," an address by Professor Emeritus Andrew C. McLaughlin of Chicago University; and "A Philosopher Looks at Lincoln," by Prof. T. V. Smith. These were published by the Association in 1937 in a pamphlet, 82 pages.

"Lincoln and the United States Supreme Court," by Paul M. Angle, is published as the May 1937 *Bulletin* of the Abraham Lincoln Association.

"Cheever, Lincoln, and the Causes of the Civil War," by George I. Rockwood was recently printed privately at Worcester, Mass. A pamphlet of 83 pages. George B. Cheever is the New York clergyman, zealous abolitionist.

Lincoln, 1847-1853: Being the Day by Day Activities of Abraham Lincoln from January 1, 1847, to December 31, 1853, by Benjamin P. Thomas. (388 pages, price, \$3.75). In this volume the Abraham Lincoln Association has brought out some new information about Lincoln. An introduction of some fifty pages gives a bird's-eye view of Lincoln's life for these thousand days. It makes a companion volume to Paul Angle's *Lincoln, 1854-1861*, published in 1933.

Otto Eisenschiml's volume, "*Why Was Lincoln Murdered?*" throws suspicion upon Secretary of War Stanton, a sensational hypothesis supported by elaborate research, albeit in highly partisan sources. Conclusions are suggested rather than proved. The most damaging evidence, that the War department had knowledge of the conspiracy, notes the aversion of General Grant's attendance at the Ford Theatre on the fatal night, the neglect of Lincoln's request for an efficient guard, and the trusting of his safety to John F. Parker, a police officer of bad record who that night abandoned his post; this officer's conduct was never punished, even by dismissal from the White House guard. (Published by Little, Brown and Co., Boston, 1937, pp. 503, price \$3.50).

ADMINISTRATIVE ORGANIZATION OF STATE GOVERNMENT IN MICHIGAN, 1921-1936. By Harold M. Dorr, Photoprinted. Bureau of Government, University of Michigan, Ann Arbor, 1936, pp. 28.

A BIBLIOGRAPHY OF THE UNIVERSITY OF MICHIGAN. By Wilfred B. Shaw. University of Michigan official publication, Vol. XXXVII, No. 49.

THE RETAIL SALES TAX IN MICHIGAN. By Robert S. Ford and Sidney Orkin. Lithoprinted. Bureau of Government, University of Michigan, Ann Arbor, 1936, pp. 24.

"Problems of American Archivists," by D. Theodore C. Blegen, is published as No. 2 of the *Bulletins of the National Archives*, Washington, D. C. This little paper of ten pages is a meaty discussion of its subject by a master of the field.

THE LOST NATION. By Noah E. Aronstam. Duo-Art Press, Detroit, 1937, pp. 92.

A unique story by a Michigan writer, about "the Land of the Chazars." Purports to be based upon a curious manuscript narrative sent to the writer some forty years ago from Timbuctoo, supplemented by the writer's historical research.

Some articles which Michigan readers will find of special interest:

"The Diary of George Duffield," by L. G. Vander Velde, in *The Mississippi Valley Historical Review* for June, 1937. George Duffield, as a progressive Presbyterian, was a strong civic and religious influence in Detroit for a generation one hundred years ago.

"Patrons of Industry in Michigan," by Sidney Glazer, *Ibid* for September, 1937. This organization was Michigan's contribution to agricultural interests of the late 80's and early 90's of the last century.

"Veritas Caput: Itasca," in *Notes and Documents, Minnesota History*, June, 1937. Michigan's special interest is in the fact that one of her citizens, Henry R. Schoolcraft of Detroit, on July 11, 1832, discovered Lake Itasca to be the "true head" of the Father of Waters. Among others in this party of sixteen was Dr. Douglass Houghton who was later to become Michigan's first state geologist. The name "Itasca" combines "itas" from *veritas* and "ca" from *caput*, as shown in one of Schoolcraft's letters.